Van Waters & Rogers Inc.

subsidiary of **Univar**

600 HUNTER DRIVE OAK BROOK, IL 60521-1926 PHONE (708) 573-4300 FAX (708) 573-2536

February 7, 1992

Mr. Stephen Bouchard Waste Management Division HRP-7J U.S. Environmental Protection Agency - Region V 77 West Jackson Blvd. Chicago, Illinois 60604-3590 RECEIVED

FEB 1 2 1992

OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V.

RE: OHD 002 899 847

Revised RCRA Part B Application

Dear Mr. Bouchard:

As we discussed on the telephone on February 7, 1992, enclosed are copies of the revised RCRA Part A Application and Waste Analysis Plan for the Van Waters & Rogers Inc. facility located at 3025 Exon Avenue in Evendale, Ohio. These documents were revised in June and November 1991 (respectively) in response to comments in a Notice of Deficiency letter from the Ohio EPA. Also enclosed is a Solid Waste Management Unit Certification Statement we submitted in 1989.

If you have any questions regarding these documents, please feel free to call me (708-573-4340).

Very truly yours,

James P. Hooper Regulatory Manager Northern Region

JPH:be

Enclosures

Copies to:

R.D. Hickman, NRO D. Wheeler, BOM M. Stevens, AOM S. Schmid, VW&R File

Van Waters & Rogers Inc.

subsidiary of **Univar**

600 HUNTER DRIVE OAK BROOK, IL 60521 PHONE (708) 573-4300

June 25, 1991

Ms. Lisa Pierard RCRA Activities Part B Application U.S. EPA - Region 5, HR-13 Chicago, Illinois 60604

RE: Van Waters & Rogers Inc.
EPA ID#: OHD 002 899 847
Ohio Permit #: 05-31-0629

RCRA Part B Permit Application - Third Revision

Dear Ms. Pierard:

Enclosed per the instructions in a letter dated May 16, 1991 from the Ohio EPA are two (2) copies of revisions to our RCRA Part B Permit application. The revisions have been made based upon the comments received regarding technical adequacy deficiencies noted during the review of the application. I have made substantial changes to those parts of the application being revised per the comments. Thus, entirely new sections are being submitted. Page footers indicate the date of submission of each revised section.

The following sections have been revised:

Part A Application. The Part A Application has been revised to reflect the correct owner of the property (incorrect in the original application), and to expand the list of waste codes.

Exhibits B-1, B-2, B-3. These exhibits have been revised to show the correct location of our facility.

Waste Analysis Plan. The waste analysis plan has been revised in accordance with the technical adequacy comments.

Contingency Plan. The contingency plan has been revised in accordance with the technical adequacy comments.

Closure Plan. The closure plan has been revised in accordance with the technical adequacy comments.

Instructions on which sections of the RCRA Part B Application should be removed and which sections have been revised and need to be inserted in the application are attached. Copies of the revisions also are being forwarded to the Dayton, Ohio Office of the OEPA, and the Columbus Office of the OEPA.

If you have any questions regarding the revised application, please feel free to call me (708-573-4340). I look forward to your review.

Very truly yours,

James P. Hooper

Regional Regulatory Manager

Northern Region

JPH:be

Enclosures

Copies to:

R.D. Hickman, NRO

M. Stevens, Indianapolis Area

D. Wheeler, Cincinnati

Van Waters & Rogers Inc. Evendale, Ohio Branch OHD 022 899 847 RCRA Part B Application - Revisions

REVISIONS INSTRUCTION SHEET

Title	Pages to Remove	Pages to Insert
Chapter A	Old Part A Application	A-1 - $A-2$, and New Part A Application
Chapter B	Exhibits B-1, B-2, B-3	Exhibits B-1, B-2, B-3
Chapter C	1 - 10 Exhibits C-1 through C-5	C-1 - C-16 Exhibits C-1 through C-6
Chapter G	All	1 - 62
Chapter I	1 - 13 Exhibits I-1 through I-7	I-1 - I-12 Exhibits I-1 through I-7

DEC 13 1990

Waste Management

OFFICE OF RCRA

U.S. EPA, R.Z. DN V

Van Waters & Rogers Inc.

subsidiary of **Univar**

600 HUNTER DRIVE OAK BROOK, IL 60521 PHONE [708] 573-4300

CERTIFIED MAIL #P472-960-516 RETURN RECEIPT REQUESTED

December 12, 1990

Ms. Lisa Pierard RCRA Activities - 5HR-13 Part B Application U.S. EPA - Region V 230 South Dearborn St. Chicago, Illinois 60604

Van Waters & Rogers Inc.

OHD 002 899 847 Ohio 05-31-0629

RCRA Part B Permit Application - Second Revision

Dear Ms. Pierard:

Enclosed per the instructions in a letter dated October 30, 1990 from the Ohio EPA are revisions to our RCRA Part B Permit application. The revisions have been made based upon the comments received regarding technical adequacy deficiencies noted during the review of the original application. As requested, old language is over-struck, new language is capitalized, and page footers indicate the date of submission.

Instructions on which pages of the RCRA Part B Application should be removed and which pages have been revised and need to be inserted in the application are attached. Copies of the revisions also are being forwarded to the Columbus, Ohio Office and the Southwest District Office of the OEPA.

If you have any questions regarding the revised application, please feel free to call me. I look forward to your review.

Very truly yours,

James P. Hoops

James P. Hooper

Regional Regulatory Manager

Northern Region

JPH: be

Enclosures

Copies to:

R.D. Hickman, NRO

M. Stevens, Indianapolis Area

D. Wheeler, Cincinnati

File

Van Waters & Rogers Inc.

Subsidiary of Univar CERTIFIED MAIL #P554-120--200 RETURN RECEIPT REQUESTED

July 6, 1990

Ms. Lisa Pierard RCRA Activities - 5HR-13 Part B Application U.S. EPA - Region V 230 South Dearborn St. Chicago, Illinois 60604

RE: Van Waters & Rogers Inc.
OHD 002 899 847
Ohio 05-31-0629
RCRA Part B Permit Application - Revisions

Dear Ms. Pierard:

Enclosed, per a letter dated May 16, 1990 from the OEPA, are revisions to our RCRA Part B Permit application. The revisions have been made based upon the comments received regarding completeness and adequacy deficiencies noted during your review of the original application. As requested, old language is overstruck, new language is capitalized, and page headers indicate the date of submission.

The narrative of each chapter of the application requiring revisions is being submitted in full. In the original application, the pages containing the narrative of revised chapters should be removed and discarded. The revised narratives should be inserted to replace the old narratives.

Copies of the revisions also are being forwarded to the Columbus, Ohio Office and the Southwest District Office of the OEPA.

If you have any questions regarding the revised application, please feel free to call me. I look forward to your review.

Very truly yours,

James P. Hooper

Regional Regulatory Manager

Central Region

JPH: be

Enclosures

Copies to: R.D. Hickman, CRO

M. Stevens, Indianapolis Area

D. Wheeler, Cincinnati

File

600 HUNTER DRIVE OAK BROOK, IL 60521 PHONE (708) 573-4300



Van Waters & Rogers Inc. Revised: June 1991

CHAPTER A

RCRA PART A APPLICATION

Evendale, Ohio Branch 3025 Exon Ave. Evendale, Ohio 45241

EPA ID#: OHD 002 899 847

The RCRA Part A application for the facility referenced above follows this cover page. The Part A application is a revised version of our previous Part A application for this facility. The following important facts are included in the new application:

Date	of	Application:	June	18,	, 1991
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Facility	Contact:	Darrell W	neeler
		Operation	s Manager

Process Code: S01 - Container Storage

Process Capacity: 11,000 gallons

Generic

Waste Codes Industry Hazardous Characteristic Non-Specific Sources

Toxic

- OOT	00110110	101110
F002	Generic	Toxic
F003	Generic	Toxic & Ignitible
F005	Generic	Toxic & Ignitible
F006	Generic	Toxic

Characteristic Wastes

D001	Generic	Ignitible
D002	Generic	Corrosive

FOOT

Waste Codes	Industry	<u> Hazardous Characteristic</u>
Characteristic	<u>Wastes</u>	
D004	Arsenic	TCLP-Toxic
D005	Barium	TCLP-Toxic
D006	Cadmium	TCLP-Toxic
D007	Chromium	TCLP-Toxic
D008	Lead	TCLP-Toxic
D009	Mercury	TCLP-Toxic
D010	Selenium	TCLP-Toxic
D011	Silver	TCLP-Toxic
D018	Benzene	TCLP-Toxic
D019	Carbon Tetrachloride	TCLP-Toxic
D022	Chloroform	TCLP-Toxic
D035	Methyl ethyl ketone	TCLP-Toxic
D039	Tetrachlorothylene	TCLP-Toxic
D040	Trichloroethylene	TCLP-Toxic
Specific Sourc	:e	

Specific Source

K086 Ink Formulation Toxic

Discarded and Off-Specification Commercial Chemical Products

U002	Acetone	Toxic & Ignitible
U031	Butyl Alcohol	Toxic & Ignitible
U044	Chloroform	Toxic
U080	Methylene Chloride	Toxic
U108	1,4 Dioxane	Toxic
U112	Ethyl Acetate	Toxic & Ignitible
U122	Formaldehyde	Toxic
U154	Methanol	Toxic & Ignitible
U159	Methyl Ethyl Ketone	Toxic & Ignitible
U161	MIBK	Toxic & Ignitible
U210	Perchloroethylene	Toxic
U211	Carbon Tetrachloride	Toxic
U220	Toluene	Toxic & Ignitible
U226	1,1,1 Trichloroethane	Toxic
U228	Trichloroethylene	Toxic
U239	Xylene	Toxic & Ignitible

For EPA Regional Use Only	For State Use Only
United States, Environmental Protection Agency	
Hazardous Waste Permit	·
Application	
Part A Part A	
(Read the Instructions before starting)	
I. ID Number(s)	
A. EPA ID Number (If applicable)	
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III. Facility Location (Physical address not P.O. Box or Route Number)	
A. Street	
3 0 2 5 E X O N A V E .	
Street (continued)	
City or Town State ZIP Code	
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County Code (f known) County Name	
B. Land Type C. Geographic Location D. Facility	
	Existence Date
P 3 9 1 5 0 3 0 0 8 4 2 5 0 1 6 0 2 6	Day Year
IV. Facility Mailing Address	0 3 1 9 5 8
Street or P.O. Box	
3 0 2 5 E X 0 N A V E	
City or Town State ZIP Code	
V Scaller Control Cont	
V. Facility Contact (Person to be contacted regarding waste activities at facility) Name (last) (first)	
W H E E L E R D D A R R E L L	
Job Title Phone Number (area code and number	r)
OPERATIONS MGR. 513-563-2	4 4 0
VI. Facility Contact Address (See Instructions)	
A. Contact Address Location Mailing B. Street or P.O. Box	
City or Town State ZIP Code	

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VAN WATERS & ROGERS INC. IS A NATIONAL DISTRIBUTOR OF INDUSTRIAL CHEMICALS. THE COMPANY DOES NOT MANUFACTURE THE CHEMICALS IT DISTRIBUTES. THE COMPANY OPERATES WAREHOUSES FOR PREPACKAGED CHEMICALS AND IN SELECT LOCATIONS OPERATES TANK FARMS FOR REPACKAGING CHEMICALS FROM BULK STORAGE INTO SMALLER CONTAINERS FOR DISTRIBUTION TO CUSTOMERS. THE WASTE PORTION OF THE BUSINESS IS KNOWN AS CHEMCARE (1M). THE FACILITY IS USED AS A TRANSFER STATION AND A PERMITTED STORAGE FACILITY FOR CONTAINERIZED HAZARDOUS WASTES.

XII. Process - Codes and Design Capacities

- A. PROCESS CODE Enter the code from the list of process codes below that best describes each process to be used at the facility. Twelve lines are provided for entering codes. If more lines are needed, strack a separate sheet of paper sigh the additional information. If a process will be used that is not included in the list of codes below, then describe the process (including its design capacity) in the space provided in term XIII.
- B. PROCESS DESIGN CAPACITY for each code entered in column A enter the capacity of the process.
 - 1. AMOUNT -Enter the amount, in a case where design capacity is not applicable (such as in a electrospect-closure or enforcement action) enter the total amount of waste for that process that.
 - 2. UNIT OF MEASURE For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be med.
- C. PROCESS TOTAL HUMBER OF UNITS Enter the total number of state used total the common discovery state.

			UNIT OF
PROCE CODE	SS PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS AND MORE DESIGN CAPACITY	UNIT OF MEASURE MEASURE CODE
		40° 44° 11° 11° 11° 11° 11° 11° 11° 11° 11	
	DISPOSAL:		GALLONS
D79	INJECTION WELL	GALLONS; LITERS; GALLONS PER DAY; OR LITERS PER DAY	GALLONS PER HOUR E
D80	LANDFILL	ACRE-FEET OR HECTARE-METER	GALLONS PER DAY
D81	LAND APPLICATION	ACRES OR HECTARES	5
D82	OCEAN DISPOSAL	GALLONS PER DAY OR LITERS PER DAY	LITERS L
D83	SURFACE IMPOUNDMENT	GALLONS OR LITERS	LITERS PER HOUR
	STORAGE:		LITERS PER DAYV
S01	CONTAINER	GALLONS OR LITERS	
	(barrel, drum, etc.)		SHORT TONS PER HOUR D
S02	TANK	GALLONS OR LITERS	METRIC TONS PER HOUR W
S03	WASTE PILE	CUBIC YARDS OR CUBIC METERS	a meinic ions pen noon m
S04	SURFACE IMPOUNDMENT	GALLONS OR LITERS	SHORT TONS PER DAY
	TREATMENT:		METRIC TONS PER DAY S
T01	TANK	GALLONS PER DAY OR LITERS PER DAY	001111000000000000000000000000000000000
T02	SURFACE IMPOUNDMENT	GALLONS PER DAY OR LITERS PER DAY	POUNDS PER HOUR
T03	INCINERATOR	SHORT TONS PER HOUR; METRIC	KILOGRAMS PER HOUR R
		TONS PER HOUR; GALLONS PER HOUR;	
		LITERS PER HOUR; OR BTU'S PER HOUR	CUBIC YARDS Y
T04	OTHER TREATMENT	GALLONS PER DAY; LITERS PER DAY;	CUBIC METERS
		POUNDS PER HOUR; SHORT TONS PER	ACRES B
	(Use for physical, chemical, thermal or biological treatment	HOUR; KILOGRAMS PER HOUR; METRIC	ACRE-FEET
	processes not occurring in	TONS PER DAY; METRIC TONS PER	ACHE-FEETA
	tanks, surface Impoundment or incinerators. Describe the	HOUR; OR SHORT TONS PER DAY	HECTARES Q
	processes in the space provided in Item XIII.)		-
	provides in item Mit.)		HECTARE-METERF
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XIV. Description of Hazardous Wastes

A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR, Part 261 Subpart C that describes the characteristics and/or the toxic contamir ents of those hazardous wastes.

Form Approved. DME No. 2050, TERH Electes 17, 1914.

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- B. ESTIMATED ANNUAL QUANTITY For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	Р	KILOGRAMS	К
TONS	T	METRIC TONS	М

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate how the waste will be stored, trested, and/or disposed of at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Item XII A. on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that processes that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

- 1. Enter the first two as described above.
- 2. Enter "000" in the extreme right box of item XIV-D(I).
- Enter in the space provided on page 7, item XIV-E, the line number and the additional code(e).
- 2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form (D.(2)).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER- Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
- 2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste, in column D(2) on that line enter "included with above" and make no other entries on that line.
- 3. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

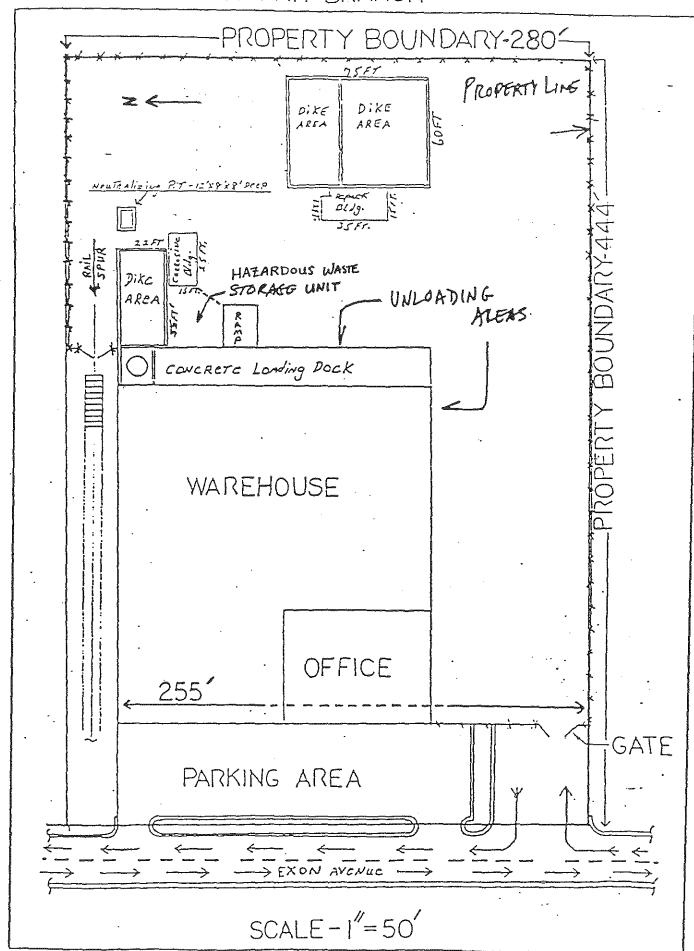
EXAMPLE FOR COMPLETING ITEM XIV (shown in line numbers X-1, X-2, X-3, and X-4 belong—A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather turning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incherator and disposal will be in a landfill.

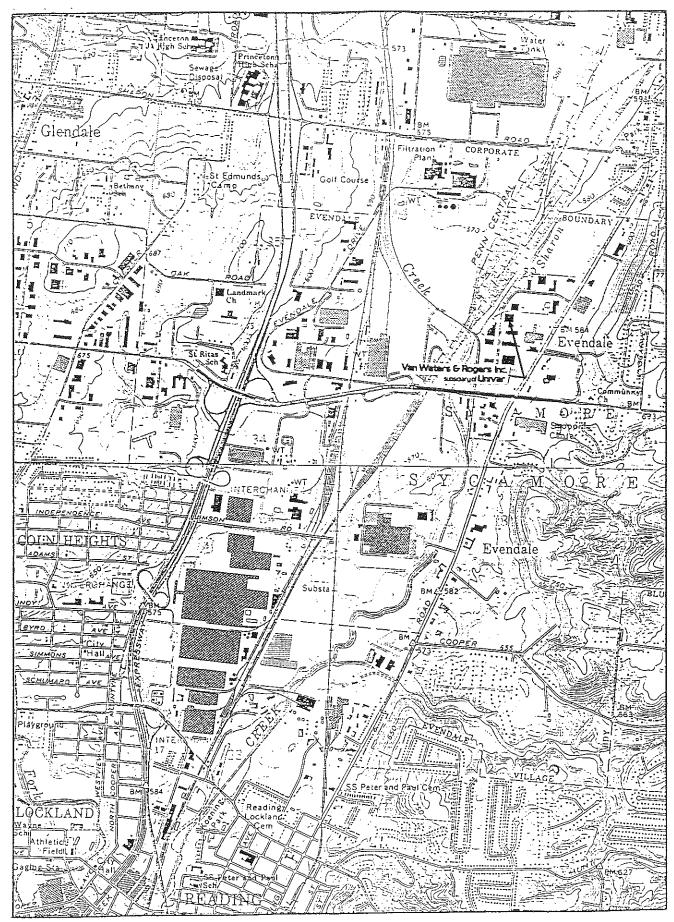
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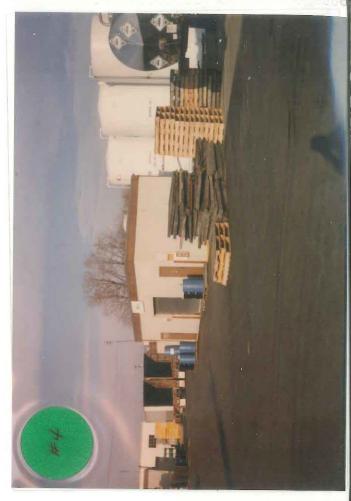




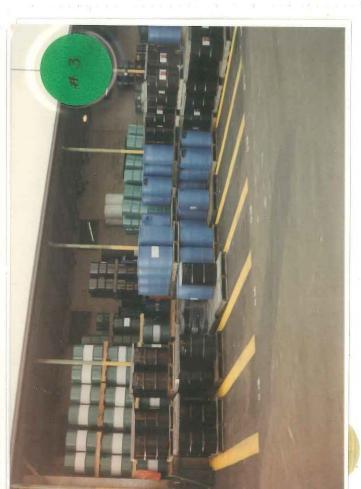
Van Waters & Rogers Inc. Cincinnati Branch OHD 002 899 847

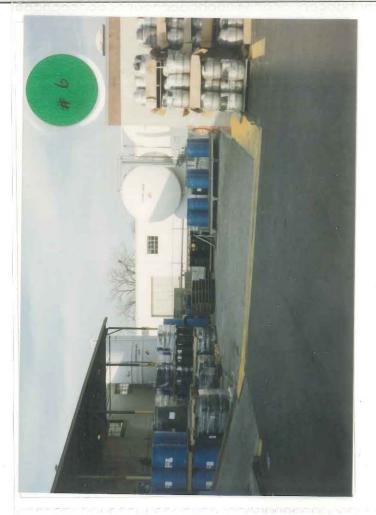
Cincinnati East, OH U.S.G.S 7.5 Quadrangle



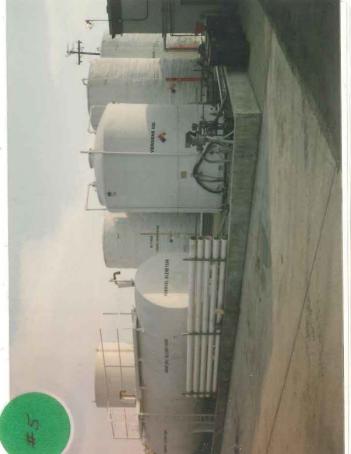


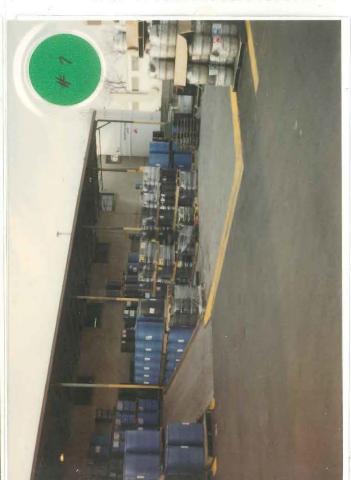












Pictures and Brief Description of the Facility

Picture Number	Picture Description
1	The office and warehouse (to the left of the office). This is the west side of the main building.
2	The south side of the warehouse and entryway to the yard. There are two truck dock doors on this side of the warehouse.
3	The east side of the warehouse, consisting of a raised, covered outdoor dock area and a groundlevel, uncovered outdoor product storage area.
4	The yard area (east) behind the main warehouse. The structure is the solvent repackaging building. Behind it (on the right side of the photograph) is the solvent tank farm.
5	The solvent tank farm.
6	The structure is the corrosive repackaging building located in the northeast quadrant of the property (behind the main warehouse and to the north of the solvent repackaging building). Behind the corrosive repackaging building (on its north side) is the corrosive tank farm.
7	The northeast corner of the main warehouse (refer to photograph #3). The hazardous waste container storage unit is the lighter gray area behind the yellow berm. The storage unit is being used to store product.
8	Another view of the hazardous waste container storage unit. On the left is the main warehouse, on the right is the corrosive repackaging building, directly behind the unit is the corrosive tank farm.

Van Waters and Rogers Inc., the largest distributor of industrial chemicals in North America, has been in the business for over 136 years. We operate over 110 facilities nationwide. Our customers represent a wide range of industries, including

food and pharmaceutical producers, the electronics industry, paints and coatings manufacturers, plastics manufacturers, cleaning industries, clothing manufacturers, cosmetics, compounding, and many other businesses producing goods and services each of us use every day.

As a distributor, Van Waters & Rogers Inc. does not manufacture the chemicals it distributes. Our product is service. Van Waters & Rogers Inc. has the knowledge and resources to distribute chemicals efficiently and safely. We also have the capability to assist our customers with technical, regulatory, and health and safety issues.

Van Waters & Rogers Inc. provides a local inventory of chemical products for industry to have available on short notice. Our customers require specialty chemicals, often in less than truckload quantities, or a variety of chemicals produced by several different manufacturers. We purchase chemical products in large quantities from these manufacturers, and resell them in smaller quantities to industries which use them to produce the goods and services they offer.

Some manufacturing processes result in spent chemicals or by-products. The generation, transportation, and treatment/disposal of these manufacturing wastes is highly regulated. ChemCare is a program introduced by Van Waters & Rogers Inc. as a service to our customers, and other industries,

which need to ensure that their wastes are disposed of in an environmentally responsible manner. ChemCare is a service which assists generators of waste (particularly hazardous waste) in the proper identification, transportation, and disposal of their wastes. The ChemCare program functions as a reverse distribution system, taking the chemical wastes from our customers to permitted recycling, treatment, and disposal facilities (TSDRFs).

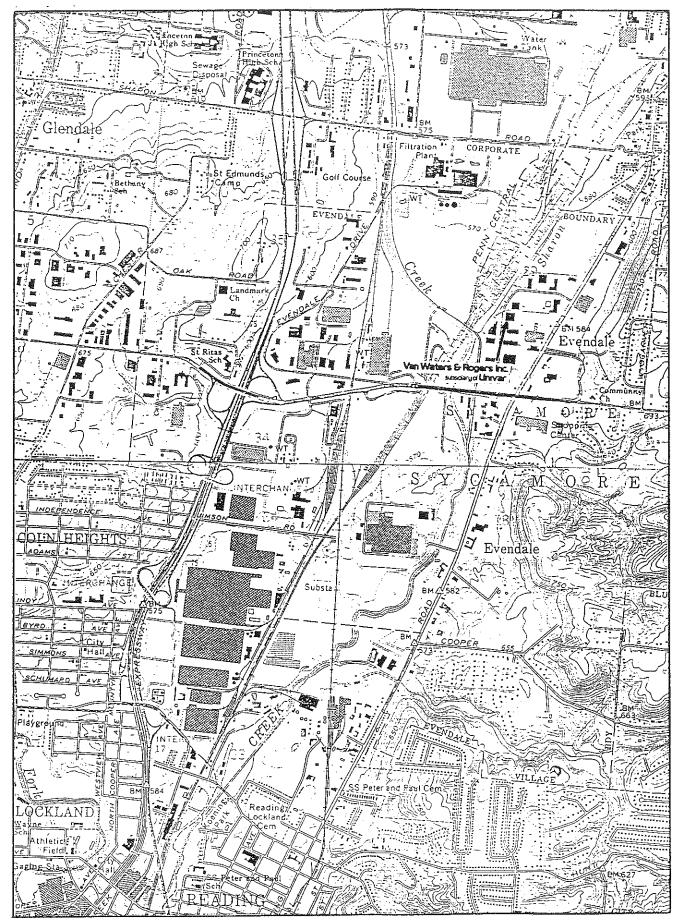
Many smaller industries often do not have the resources or sophistication necessary to comply with the requirements of State and Federal waste management regulations. ChemCare is a service to assist the smaller generator of waste through the complexities of waste management regulations. A part of the ChemCare service is the ability of Van Waters & Rogers Inc. to store containers of waste produced by our smaller customers. Operating a waste container storage facility allows Van Waters & Rogers Inc. to remove wastes from small generators on a timely basis, and to accumulate truckload sized quantities for transport to permitted TSDRFs. The result is safer handling in the most cost effective manner. ChemCare is a waste management service designed to provide viable waste management alternatives which reduce environmental risk to the community.

Although Van Waters & Rogers Inc. through its ChemCare program will become a hazardous waste management facility because when permitted to store containers of hazardous waste, only a small portion of the facility will be devoted to hazardous waste

management. The facility proposes to operate a small hazardous waste container storage unit. The unit will be used as a secure location for the temporary storage of containers of waste. Once enough containers are accumulated to form a truckload (approximately 70 drums), the waste will be manifested and transported to a permitted TSDRF. A truckload quantity of waste containers is accumulated, on average, every 30 to 60 days.



Cincinnati, Greater Met Metropolitan Area



Van Waters & Rogers Inc. Cincinnati Branch OHD 002 899 847

Cincinnati East, OH U.S.G.S 7.5 Quadrangle



RECEIVED

Van Waters & Rogers Inc. Revised: November 1991

FEB 12 1992

CHAPTER C

WASTE CHARACTERISTICS WASTE ANALYSIS PLAN

(40 CFR PART 264.13) (OAC 3745-54-13) OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION Y.

Van Waters & Rogers Inc. is currently the largest distributor of industrial chemicals in North America, and has been in the business for over 136 years. We operate over 110 facilities nationwide. Our customers represent a wide range of industries, including food and pharmeceutical producers, the electronics industry, paints and coatings manufacturers, plastics manufacturers, cleaning industries, clothing manufacturers, cosmetics, compounding, and many other businesses producing goods and services each of us use every day.

Van Waters & Rogers Inc. will function as a short term storage facility for containers of hazardous waste. The primary source of the waste streams will be customers to whom Van Waters & Rogers Inc. has previously supplied the same material in its virgin state. Containers of hazardous waste will be accumulated at this facility until enough are collected to make shipment to a permitted hazardous waste treatment facility economical.

Typically containers of hazardous waste will remain in storage

for 45 days or less.

Van Waters & Rogers Inc. has named its waste management service ChemCare^(TM). ChemCare^(TM) is a program designed by Van Waters & Rogers Inc. as a service to our customers, and other industries, which need to ensure that their wastes are managed in an environmentally responsible manner. ChemCare^(TM) offers generators of waste (particularly hazardous waste) assistance in the proper identification, transportation, and treatment of their wastes. The ChemCare^(TM) program functions as a reverse distibution system, taking chemical wastes from our customers to permitted recycling and treatment facilities (TSDRFs).

Many smaller industries contract with companies such as Van Waters & Rogers Inc. to provide them with the resources and sophistication necessary to comply with the requirements of State and Federal waste management regulations. A part of the ChemCare (TM) service is the ability of Van Waters & Rogers Inc. to store containers of waste produced by our smaller customers. Operating a waste container storage facility allows Van Waters & Rogers Inc. to remove wastes from small generators on a timely basis, and to accumulate truckload sized quantities for transport to permitted TSDRFs.

Van Waters & Rogers Inc. functions as a broker for hazardous waste management services. We have negotiated master agreements

for hazardous waste management services with various treatment facilities throughout the United States. The agreements provide Van Waters & Rogers Inc. and our customers with the following hazardous waste management alternatives:

Recycling
Fuel Blending
Incineration
Treatment (Deactivation, Stabilization, Neutralization)
Boilers and Industrial Furnaces
Class 1 Landfill
Underground Injection
Wastewater Treatment
Other permitted technologies

Exhibit C-1 is a current listing of the treatment facilities under agreement with Van Waters & Rogers Inc. and of the treatment technologies offered at each treatment facility location. This listing changes from time to time and is attached for information only.

Although Van Waters & Rogers Inc. through its ChemCare (TM) program will become a hazardous waste management facility when permitted to store containers of hazardous waste, only a small portion of the facility will be devoted to hazardous waste management. The facility proposes to operate a small hazardous waste container storage unit. The unit will be used as a secure location for the temporary storage of containers of waste. Once enough containers are accumulated to form a truckload (approximately 60 drums), the waste will be manifested and transported to a permitted treatment facility. A truckload quantity of waste containers is accumulated, on average, every 45

days.

Van Waters & Rogers Inc. functions more as a transfer station than an actual storage facility. Containers of waste are manifested from off-site generators to the facility in sealed containers. The ability to store containers of waste for more than 10 days allows time for a truckload quantity of containers to accumulate before they must be transported to a permitted treatment facility. The transportation and treatment of hazardous wastes can be accomplished with greater efficiency and at reduced costs for larger quantities of waste. Thus, small quantity generators using the ChemCare (TM) program benefit from having their wastes manifested as part of a larger amount after Van Waters & Rogers Inc. has accumulated a truckload quantity.

WASTE ANALYSIS PLAN SYNOPSIS

This Waste Analysis Plan discusses procedures for acceptance of off-site generated wastes for intermediate storage at Van Waters & Rogers Inc. and the subsequent movement of the waste into and out of the Van Waters & Rogers Inc. facility to a third party RCRA permitted treatment facility. specifically, the plan provides procedures for:

- Waste stream pre-acceptance procedures;
- Van Waters & Rogers Inc. pickup procedures;
- Van Waters & Rogers Inc. receiving procedures;
- Van Waters & Rogers Inc. shipping procedures;

- Third party treatment facility receiving procedures;
- Van Waters & Rogers Inc. fingerprint procedures.

The plan also identifies the waste analysis documentation, and explains how the documentation is gathered, disseminated, and filed to ensure that all parties involved (i.e., generator, Van Waters & Rogers Inc. and third party treatment facility) have adequate information available to properly manage a given waste.

All wastes accepted for storage at the Van Waters & Rogers Inc. facility will be subject to the procedures outlined in this plan, including any waste generated on-site by Van Waters & Rogers Inc. and stored on-site for more than 90 days. A copy of this plan will be available at the Van Waters & Rogers Inc. facility at all times.

GENERAL WASTE STREAM INFORMATION

Van Waters & Rogers Inc. requires potential customers (off-site generators) who wish to employ our services to handle their waste streams to submit to us a Waste Survey Form (commonly referred to as a waste profile). A typical Waste Survey Form is shown in Exhibit C-2. The waste profile is a description, based upon generator knowledge, of the waste stream. It includes information on the process generating the waste stream, the quantity generated on a monthly and annual basis, the types of containers the stream is collected in, and the constituents and

an estimate of their quantities.

The waste profile is sent along with a sample of the waste stream to a selected permitted treatment facility for a complete analysis. The completed profile and laboratory analysis are used by Van Waters & Rogers Inc. and the selected permitted treatment facility to complete arrangements for transport, storage, and treatment of the waste. The results of the waste stream sample analysis verify that the generator's waste profile is accurate. If the sample indicates that the information submitted on the waste profile is incomplete or inaccurate, a new waste profile must be completed and a new sample submitted for analysis. Only waste streams that can be properly handled by Van Waters & Rogers Inc. and the permitted treatment facility are accepted.

After the waste stream has been accepted by the permitted treatment facility, a waste stream approval is issued by the treatment facility to the generator and Van Waters & Rogers Inc. The waste stream now has a unique identity, and is the subject of a contract between the generator, the treatment facility, and Van Waters & Rogers Inc. The waste stream profile and sample analysis become part of the contract and any additional the information about the waste stream is shared by all parties. This includes fingerprint analyses conducted by the treatment facility upon receipt of each shipment of waste.

The types of hazardous waste that will be stored at the Branch are listed in Chapter A of this application (the Part A Application). They are RCRA listed hazardous wastes from non-specific sources exhibiting the hazardous characteristics of toxicity, ignitibility, or corrosivity. The waste streams will be classified as liquids or solids. Liquids at times may be very viscous if they contain large quantities of sediment and bottom sludge.

Van Waters & Rogers Inc. encourages its customers to generate single component waste streams to maximize the potential recyclability of their hazardous wastes; however, this is not always practicable, and many waste streams are combinations of chemicals listed as hazardous constituents in the spent solvent (F001, F002, F003, F005) or ignitable characteristic (D001) waste codes. Many waste streams will have secondary waste codes associated with them as well, such as a TCLP-toxicity characteristic code.

All of the hazardous wastes to be stored at this facility will be containerized in U.S. Department of Transportation (DOT) specification containers (most commonly in 55-gallon drums or 350-gallon portable tanks) and kept in a hazardous waste management unit with a secondary containment system. While in storage, all waste containers will remain labeled and marked in accordance with the regulations. Each container will have a

hazardous waste label identifying the generator and the EPA waste code number. Each container also will have the storage-start-date stenciled on it when it is received by the facility for storage.

The facility will not store restricted wastes for more than one year. All hazardous wastes accepted for temporary storage will be re-manifested to a permitted treatment facility as soon as possible. Van Waters & Rogers Inc. will incur any extra costs of shipping waste streams which may be uneconomical to ship from storage in small quantities, rather than store the stream for more than one year. The facility operating log, which tracks the dates waste streams are received into and manifested from storage, will be used to ensure waste streams are not stored for more than one year.

SAMPLING METHODS

The method to be used for taking samples from containers of hazardous waste is contained in SW-846, Section 1.4.1, entitled "Standard Procedures for Sampling Waste Containers". Van Waters & Rogers Inc. will not take samples for off-site generators or treatment facilities; however, we will require that the methods and equipment used by those obtaining samples meet the requirements of Federal and State standards. Van Waters & Rogers Inc. provides guidance on the safe sampling of waste streams, and

Van Waters & Rogers Inc. representatives are often present during waste stream sampling. The guidelines are shown in Exhibit C-3.

CHEMICAL WASTE ANALYSIS PARAMETERS and RATIONAL

Van Waters & Rogers Inc. maintains a current waste profile, and a chemical and physical analysis of each off-site generators' waste stream. This information is required to be on file at the facility before a waste stream is received for the first time. The parameters that will be measured and the rationale for their selection are listed below. Examples of typical test results are shown in Exhibit C-4.

Van Waters & Rogers Inc. does not operate its own testing laboratories, instead the company relies on the analytical capabilities of permitted treatment facilities utilized for treatment of hazardous waste. They are fully equipped with laboratory facilities to conduct all testing required by State and Federal regulations. The permitted treatment facilities have quality assurance programs for their analytical services centers. The programs are modeled after Federal and State quality assurance program quidelines. Exhibit C-8 is an example of quality assurance program guidelines.

The parameters analysed for depend upon the type of waste stream and the proposed treatment. For example, a waste stream

which is a single component chlorinated solvent from a degreasing operation (e.g. 1,1,1-trichloroethane) destined for recycling is subjected to a gas chromatcgraphic analysis for the component being recycled and for other organic solvents which may interfere with the recovery process or contaminate the recycled material. There is also a measurement of the amount of sludge or non-recoverable components in the waste stream. Unless the generator has identified the presence of flammable or corrosive components, the flash point and pH of the waste stream are not measured. Also, TCLP components are not tested for unless the generator has indicated their potential presence in the waste profile, or the process generating the waste stream suggests they may be present.

Waste streams containing a high percentage of flammable solvents and proposed for burning in an industrial furnace are analyzed for BTU value, major component(s), flash point, chlorides, and metals. These parameters measure the acceptability of the waste stream for use as an alternative fuel in an industrial furnace or boiler. Knowing the identity and quantity of each component is not necessary.

Corrosive waste streams destined for deactivation are analyzed for pH, major component, and potential contaminants identified by the generator depending upon the process that generated the corrosive stream. For example, corrosive streams from electroplating operations would be analyzed for TCLP-metals.

Corrosive waste streams from paint stripping operations would be analyzed for metals (pigments) and TCLP-organics (carriers).

Again, based upon the generator's profile of the waste stream, a general spectrum analysis for all hazardous constituents is usually not necessary. If a generator indicates that lead is present in the waste stream, then there is no need to analyze for lead, unless the generator believes the amount of lead in the waste stream is below the level that would make the stream a TCLP waste.

Both process knowledge and the standards applicable to the treatment process for the waste stream are employed to determine the appropriate test parameters. The selected treatment facility is required by its hazardous waste management permit to analyze each waste stream to ensure its safe transportation, storage, and proper treatment. The test methods used by the selected treatment facility to determine the exact contents of the containerized waste streams are discussed in the following section.

TEST METHODS

The following chart summarizes the test methods used by the selected treatment facility to characterize waste streams. These methods are used to determine organic constituents, inorganic constituents, and physical characteristics of a waste stream.

The specific parameters measured for in a waste stream will depend upon the waste profile submitted by the generator.

PARAMETER	TEST METHOD	PURPOSE
Assay	Gas Chromatograph (GC, GC/MS, or HPLC) Methods 8010 - 8280 Organics 7040 - 7761 Inorganics	To confirm the identity and amount of recoverable components.
Specific gravity	Balance	Useful in product identity. Permits conversion of volume to weight.
Water	Karl Fischer	Contamination
Flash Point	Methods 1010 or 1020	Ignitability
рн	pH Meter Method 9040	Corrosivity
Cyanide & Sulfide	Methods 9010 and 9030	Reactivity
TCLP-Toxicity	Method 1311	TCLP-Toxicity

All analyses required for characterization of a hazardous waste stream will follow the analytical procedures defined in the EPA publication SW-846 - Test Methods for Evaluating Solid Wastes. Organic constituents will be tested for using test methods 8010 through 8020. Inorganic constituents will be tested for using test methods 7040 through 7761. Cyanides and sulfides (reactivity) will be tested for using test methods 9010 and 9030, respectively. pH measurements (corrosivity) will follow test method 9040. Flash point (ignitibility) will be determined using test methods 1010 or 1020. TCLP-Toxicity will be determined using test method 1311. Quality control and quality assurance procedures will follow those recommended in Section 10.1 through

FREQUENCY of ANALYSIS

The profiling, sampling and analysis procedures described above will be repeated:

- Periodically at time intervals required by the third party treatment facility which is treating, recycling or disposing of the waste;
- When the Van Waters & Rogers Inc. facility is notified by the generator, the third party treatment facility or through internal communication at the Van Waters & Rogers Inc. facility that the process of operation generating a waste stream has changed;
- When an inspection of the waste containers, marking, labelling, or hazardous waste manifest information indicates a nonconformity between the approved profile information and container contents;
- When the Van Waters & Rogers Inc. facility has reason to believe the process generating the waste has changed;
- When the check-in fingerprint screening or pretreatment analysis performed by the third party treatment facility indicates a nonconformity between the approved profile and waste stream numbers and the waste materials in an individual shipment;
- If the shipment is nonconforming, Van Waters & Rogers Inc. does not pick up or receive this waste stream until the profiling, sampling and analysis procedures have been repeated; and
- When it is otherwise deemed necessary to verify the accuracy of the approved profile and conformity of the waste stream with the approved profile and pre-approval analytical results.

If any discrepancies are found between the fingerprint of the shipment and the original analysis of the stream during waste

shipment inspections by Van Waters & Rogers Inc. or the treatment facility, the generator will be called and the discrepancies will be resolved. If the discrepancies cannot be resolved, the waste will be rejected and returned to the generator. Fingerprinting and the resolution of discrepancies will occur within 15 days of receipt of the manifested waste shipment. An "Unresolved Waste Discrepancy Report" will be filed with the Director of the Ohio Environmental Protection Agency when waste is rejected and returned to the generator.

ADDITIONAL REQUIREMENTS for WASTES GENERATED OFF-SITE PICKUP PROCEDURES

After the third party treatment facility has approved the generator's waste stream and assigned a unique waste profile number and waste stream approval number, Van Waters & Rogers Inc. will initiate the following waste pickup procedures:

The generator completes the appropriate hazardous waste manifest. Prior to pickup, the content of the manifest is reviewed by the Van Waters & Rogers Inc. facility for accuracy, completeness and conformity to the approved waste profile. Each waste listed on the manifest must be a waste stream which Van Waters & Rogers Inc. is permitted to store and for which Van Waters & Rogers Inc. has received written notification of approval by the third party treatment facility. DOT shipping code and EPA hazardous waste code on the manifest must match those on the approved waste profile. After the manifest copy has been reviewed and approved by the Van Waters & Rogers Inc. facility, the manifest copy is given to the Van Waters & Rogers Inc. facility driver who is dispatched to the generator's location to pickup the waste materials.

- Each generator will be required to certify that hazardous wastes restricted from land disposal in accordance with 40 CFR Part 268 are labeled accordingly and accompanied by a restricted waste notification statement and certification. A sample notification form is shown in Exhibit C-6. Land disposal restrictions require each generator to furnish a Land Disposal Restriction Notification Statement with each manifest of hazardous waste that is restricted from land disposal. The notification also includes the treatment standards and/or technologies applicable to the restricted waste.
- restricted from land disposal that a generator states meets the treatment standards of 40 CFR Part 268.41 or 268.43, then the manifests for these wastes must be accompanied by a certification and test results prepared by the generator that demonstrate the waste constituents in the waste stream do not exceed the allowable levels in the waste stream in question. Similarly, if any restricted wastes are picked up which the generator states have been treated using the specified technologies in 40 CFR Part 268.42, then the manifest must be accompanied by a notification and certification that the appropriate treatment technologies have been applied.
- At the generator's location, the Van Waters & Rogers Inc. facility driver compares the manifest copy with the original manifest prepared by the generator. All items on the original manifest must be accurate, complete and in conformity with the manifest copy, other than quantity listing dates, signatures, weights, etc. If there are any material nonconformities, the driver is required to refuse pickup of the waste materials until Van Waters & Rogers Inc. and the generator have reviewed and resolved the nonconformities and approved pickup.
- Before the waste shipment is loaded onto the truck, the driver inspects the waste containers individually as follows:
 - Checks the container condition for leaks or obvious structural defects or damage;
 - Checks container closures for integrity;
 - Checks for appropriate DOT warning labels on containers;

- Check the container labels for accurate and complete marking in conformity with the manifest; and
- Checks that the containers are DOT approved.

A copy of the Van Waters & Rogers Inc. facility Hazardous Waste Pickup Checklist used by the driver is attached as Exhibit C-5.

- After the truck is loaded, the generator signs and dates the generator section of the manifest, the driver signs and dates the transporter section of the manifest, the driver gives the generator copy of the manifest to the generator and the driver retains the remaining manifest copies and the Land Disposal Restriction Notification Statement.
- In addition to the manifest and Land Disposal Restriction Notification Statement, a Recycling/TSD Handling Agreement and Transportation/Handling Agreement accompany each shipment. A copy of these agreements is included as Exhibit C-7. These agreements are signed by the generator, Van Waters & Rogers Inc. and the third party treatment facility. these agreements, the generator selects the third party treatment facility that will receive the waste shipment after intermediate storage at the Van Waters & Rogers Inc. facility. In these agreements, the generator warrants that the shipment conforms to the approved waste profile and stream and to the manifest. agreements obligate Van Waters & Rogers Inc. to transport the shipment to the third party treatment facility selected by the generator and prohibit Van Waters & Rogers Inc. from transporting the shipment to any other location These handling agreements reference the specific manifest which accompanies the shipment by manifest number.

RECEIVING PROCEDURES

When incoming shipments of hazardous waste arrive at the Van Waters & Rogers Inc. facility, the following receiving procedures are implemented:

- The waste containers are off-loaded onto the Van Waters
 & Rogers Inc. facility loading dock;
- The shipment is checked for conformity with hazardous waste manifests and approved waste profiles;
- The containers are inspected, using the procedures described above in Exhibit C-5;
- The treatment facility section of the manifest is signed and dated;
- The shipment is assigned a lot number and each container is marked with a unique identification number based on the assigned lot number;
- The containers are moved to the RCRA permitted container storage area;
- The receiving information, including the assigned lot number, is entered onto the Hazardous Waste Storage Log, copy attached as Exhibit C-9; and
- The appropriate copies of the manifest are mailed to the generator and state.

All of the hazardous wastes to be stored at this facility will be containerized in DOT authorized containers and kept in a hazardous waste management unit with a secondary containment system. While in storage, all waste containers will remain labeled and marked in accordance with the hazardous waste and DOT regulations. Each container will have a hazardous waste label identifying the generator and the EPA waste code number. Each container also will have the storage-start-date affixed to it when it is received by the facility for storage.

SHIPPING PROCEDURES

Outgoing loads of hazardous waste are shipped according to

the following procedures:

- A new manifest and land disposal notification form will be prepared and signed by Van Waters & Rogers Inc. as the generator;
- The receiving third party treatment facility is notified that a shipment is forthcoming and provided a list of the approved waste streams that will be included in the shipment;
- A common carrier or Van Waters & Rogers Inc. truck licensed to haul dangerous waste is scheduled to transport the shipment to the receiving third party treatment/disposal facility;
- The containers designated for the shipment are moved from the container storage area to the loading dock;
- Each container is inspected for leaks, bulges, damage, loose bungs, and legible labeling and marking;
- The applicable hazardous waste manifest is checked against the assembled shipment;
- The containers are loaded, secured in accordance with DOT requirements, and the driver signs and dates the transporter section of the manifest;
- The generator portion of the manifest and a copy of the attached Land Disposal Restriction Notification Statement are retained on file at the Van Waters & Rogers Inc. facility. The remaining portions of the manifest accompany the shipment to the third party treatment facility; and
- The date of shipment and third party treatment facility destination are entered in the Hazardous Waste Storage Log.

TREATMENT FACILITY RECEIVING PROCEDURES

Hazardous waste shipments from the Van Waters & Rogers Inc. facility are received at the third party treatment facility according to that facility's RCRA permit conditions, which

generally include the following procedures:

- The waste containers are inspected for conformity to the hazardous waste manifest and approved waste profile and stream numbers;
- The waste materials are sampled and the samples analyzed;
- The sample analytical results are reviewed for conformity to the hazardous waste manifest and approved waste profile and stream numbers;
- If there is a nonconformity between sample analytical results and the hazardous waste manifest or approved waste profile or stream numbers, the third party treatment facility will contact the Van Waters & Rogers Inc. facility who will contact the generator to advise In accordance with the terms of of the nonconformity. the handling agreements (Exhibit C-7), nonconforming shipments are rejected and returned to the generator or are handled in an alternate manner agreed upon by the generator, Van Waters & Rogers Inc. and the third party treatment facility in accordance with applicable government regulations. If the shipment is nonconforming, the generator loses all of the financial indemnification benefits under the handling agreements and has the contractual obligation to pay all costs associated with return or alternate handling of the waste; and
- when the waste shipment has been inspected, sampled, analyzed and accepted for treatment, recycling or disposal by the third party treatment facility, that section of the manifest is signed by the third party treatment facility and returned to the Van Waters & Rogers Inc. facility where it is retained.

RECORDKEEPING PROCEDURES

The documentation relating to each waste shipment stored at the Van Waters & Rogers Inc. facility includes the following:

- Waste stream profile;
- Third party treatment facility written notification of waste stream approval;
- Hazardous waste manifest;
- Land Disposal Restriction Notification Statement;
- Handling agreements; and
- Hazardous Waste Storage Log.

Each waste shipment stored at the Van Waters & Rogers Inc. facility is also assigned a unique lot number which is entered with the incoming hazardous waste manifest number on the Hazardous Waste Storage Log. The log cross-references the lot number with the incoming manifest number to assure that the waste shipment is transported to the third party treatment facility selected by the generator in the handling agreements.

This documentation is maintained as part of the Van Waters & Rogers Inc. RCRA Storage Facility Operating Record. This documentation ensures that Van Waters & Rogers Inc. has adequate information concerning generator waste streams to properly manage intermediate storage of the waste. This documentation also ensures that the generator's waste stream is shipped to the third party treatment facility which has performed the waste stream analysis, has approved the waste stream, has assigned unique waste profile and stream numbers and which has been selected by the generator for treatment, recycling or disposal of the waste.

WASTE STREAM VERIFICATION PROCEDURES (FINGERPRINTING)

In order to ensure that the containers of waste received from off-site sources contain the waste which is listed on the manifest and is the waste for which we have a profile and analytical data, Van Waters & Rogers will perform a "fingerprint" analysis of each shipment received for storage. Twenty (20%) percent of the containers from each shipment of each waste stream received for storage will be fingerprinted. The following sampling schedule will be used:

Number of Containers	Number Fingerprinted
1 - 10	2
11 - 20	4
21 - 30	6
31 - 40	8
41 - 50	10
51 - 60	12
61 - 70	14
etc	

Fingerprinting will consist of the following parameters:

Parameter	Method
Specific gravity	Hydrometer (ASTM Method D2111-71)
рН	pH meter (SW-846 Method 9040)
Physical Characteristics Color Viscosity Solids Phase(s)	Observation Observation Observation Observation

The results of the fingerprint tests will be recorded on a "Fingerprint Analysis Test Results Form" (shown as Exhibit C-10). Each parameter checked must be within the range of the results of the original analysis of the waste stream. Specific gravity must be within 0.10 units; the pH must be within 2 units; the color, viscosity, amount of solids (sludge and oil content), and the number and description of the phase(s) must be similar to those described on the original waste profile and chemical analysis for the stream.

If any discrepancies are found between the fingerprint of the shipment and the original analysis of the stream, the generator will be called and the discrepancies will be resolved. If the discrepancies cannot be resolved, the waste will be rejected and returned to the generator. Fingerprinting and the resolution of discrepancies will occur within 15 days of receipt of the manifested waste shipment. An "Unresolved Waste Discrepancy Report" will be filed with the Director of the Ohio Environmental Protection Agency when waste is rejected and returned to the generator.

ADDITIONAL REQUIREMENTS for IGNITABLE, REACTIVE or INCOMPATIBLE WASTES

This facility will store toxic, ignitable, and corrosive wastes in its hazardous waste storage area. These wastes will not be stored near ignition sources or heat producing sources,

and "no smoking" signs will be conspicuously placed around the area. Similarly, strong acids and alkalies will be separated by barriers of inert materials during storage. In the event of a release of these wastes, they will be prevented from reacting with one another and producing excessive heat and potentially toxic gases.

Van Waters & Rogers Inc. does not repack (unless a container fails during storage) or consolidate containers of waste.

Incompatible waste streams, such as strong acids and alkalies which when mixed can generate excessive heat and potentially toxic gases, will be separated by barriers of inert materials during storage. This significantly reduces the possibility of exposing wastes to ignition sources and promoting reactions between wastes and incompatible chemicals.

EXHIBIT 1

CHEMCARE TSDRF CAPABILITIES

CHEMCARL (SDRF CAPABILITIES

TSDRF	ADDRESS	CAPABILITIES	EPA I.D. NUMBER	CONTACT NAME/ TELEPHONE #
Chemical Waste Management (OSCO)	1704 West First Street Azusa, Callfornia 91702	Fuel Blending, Solvent Recycling	CAD 008302903	William J. Mitzel (818) 334-5117
Chemical Waste Management (OSCO)	9131 East 96th Avenue Henderson, Colorado 80640	Fuel Blending, Solvent Recycling	COD 980591184	Bill Shortreed (303) 289-4827
Chemical Waste Management (CWMRR)	4301 Infirmary Road West Carrollton, Ohio 45449	Fuel Blending, Solvent Recycling	OHD 093945293	Bob Key, Manager (513) 859-6101
EMPAK, Inc.	2759 Battleground Road Deer Park, Texas 77536	Waste Water Treatment, Deep Well Injection	TXD 097673149	John Hensley (713) 479-1990
H.E.A.T.	5560 Singleton Blvd. Dallas, Texas 75212	Fuel Blending, Solvent Recycling	TXD 980624035	Tom Bergeron (214) 637-6434
Laidlaw (Tricil)	Antioch, Tennessee	Physical/Chemical Treatment and Recycling		
Laidlaw (Tricil)	Bartow, Florida	Fuel Blending, Solvent Recycling	FLD 980729610	Michael Sanderock (813) 533-6111
Laidlaw (GSX)	3300 Cummings Road Chattanooga, Tennessee 37419	Non-Haz Wastewater Treatment	"N/A"	Karl C handler (615) 821-6926
Laidlaw (Tricil) (Clearwater Facility)	5303 126th Avenue North Pinellas Park, Fl 33565	Service Center	FLD 981474802	Ed Kerr (813) 573-1405
Laidlaw (Tricil)	U. S. HWY 1112 P. O. Box 283 Crowley, Louislana 70526	Fuel Blending and Solvent Recycling	LAD 079464095	Rick Davenport (318) 783-2624
Laidlaw (Trlcil)	2815 Old Greenbrier Pike P. O. Drawer G Greenbrier, TN 37073	Service Center	TND 000645770	Barry Fogle (615) 244-8960
Laidlaw (Tricil)	Hilliard, Ohio	Physical/Chemical Treatment and Recycling	<u> </u>	
Laidlaw (GSX)	Laurel, Maryland	Service Center	MDD 980554653	William Hallam (301) 953-3673

CHEMCAR L TSDRF CAPABILITIES

TSDRF	ADDRESS	CAPABILITIES	EPA I.D. NUMBER	CONTACT NAME/ TELEPHONE #
Laidlaw (Tricil)	Pecatonica, Illinois 6125 North Pecatonica Rd Pecatonia, Illinois 61063	Service Center	ILD 980502744	Robert Johnson (815) 239-2377
Laidlaw (GSX)	Route 1, Box 255 Pinewood, South Carolina 29125	Class 1 Secure Landfill	SCD 070375985	Larry G. Johnson 803) 452-5003
Laldiaw (GSX)	Watlington Industrial Road Route 11, Box 3 Reidsville, North Carolina 27320	Service Center	NCD 000648451	Nick Cullan (419) 342-6106
Laidlaw (GSX)	Railroad Road P. O. Box 306 Roebuck, South Carolina 29376	Incineration (Liquids)	SCD 981457616	Dave Rohhreson (803) 576-1085
Laidlaw (IT)	Westmoreland, California	Class 1 Secure Landfill		Not Utilized
Laidiaw (GSX)	Clark Road Route 1, Box 1119 White Castle, Louisiana 70788	Non-Hazardous Land Farming	LAD 982549636	Daniel L. Martin (504) 545-3676
Rollins	13351 Scenic Highway Baton Rouge, Louisiana 70807	Incineration, Landfill	LAD 010395127	Robert Fuqua (504) 778-1242
Rollins	Route 2 Box 1200 Plaquemine, Louisiana 70764	Deep Well	LAD 000778514	Michael Sullivan (504) 659-2434
Rollins	Routes 295 & 322 P. O. Box 221 Bridgeport, NJ 08014	Incineration	NJD 053288239	Michael J. Fusco (609) 467-3100
Rollins	2027 Battleground Road Deer Park, Texas 77536	Incineration	TXD 055141378	Richard Schauffler (713) 930-2445
Rollins (OPC)	5756 Alba Street Los Angeles, CA 90058	Service Center	CAD 050806850	Ron Reed (213) 585-5063

CHEMCARE TSDRF CAPABILITIES

TSDRF	ADDRESS	CAPABILITIES	EPA I.D. NUMBER	CONTACT NAME/ TELEPHONE #
Romic Chemical	6760 West Allison Road Chandler, Arizona 85226	Fuel Blending, Solvent Recycling	AZD 009015389	Jack McClary (602) 961–1040
Romic Chemical	2081 Bay Road East Palo Alto, CA 94303	Fuel Blending, Solvent Recycling, Treatment	CAD 009452657	Brad Lamont (415) 324-1638
)				
Systech	South Cement Road Fredonia, Kansas 66736	Cement Kiln	KSD 980633259	Paul Peters (316) 378-4451
Systech	Putnamville Road P. O. Box 422 Greencastle, Indiana 46135	Cement Kiln	IND 006419212	Thomas A. Johns (317) 653-2606
Systech	State Highway 138 P. O. Box 837	Cement Kiln	CAT 08031628	Cra ig Cape (805) 248-6749
Systech	Lebec, CA 93243	Cement Klin		
Systech	1480 Ford Avenue Alpena, Michigan 49707	Cement Kiln	MID 981200835	Gill Peterson (517) 354-3122
Systech	P.O. Box 226 County Road 176 Pauling, Ohlo	Cement Kiln	OHD 005048947	Terri Kanouse (419) 399-4835
Systech	Arcola Road P. O. Box 1097 Demopolis, Alabama 36732	Cement Kiln	ALD 981019045	James Valana (205) 289-3222

CHEMCARE TSDRF CAPABILITIES

		1		6/91
TSDRF	ADDRESS	CAPABILITIES	EPA I.D. NUMBER	CONTACT NAME/ TELEPHONE #
USPCI Grassy Mountain Facility	8960 N. Highway 40 Lake Point, Utah 84074	Class 1 Secure Landfill	UTD 911301748	Ken Hall (801) 884-6841
USPCI (K.D.M.)	4303 Profit Drive San Antonio, Texas 78219	Fuel Blending, Solvent Recycling	TXD 052649027	Robert Turnbow (512) 33\$-4011
USPCI (HRI)	5354 West 46th St. South Tulsa, Oklahoma 74107	Fuel Blending, Solvent Recycling	OKD 000632737	Phil Grover (918) 446-7435
USPCI Lone Mountain Facility	R. R. 2, Box 180A Waynoka, Oklahoma 73860	Class 1 Secure Landfill and Treatment	OKD 065438376	Scott Nicholson (405) 697-3237
USPCI (HRI)	2549 New York Street Wichita, Kansas 67219	Fuel Blending, Solvent Recycling	KSD 007246846	Charles Trombold (316) 267-5742
USPCI (Solvent Services)	San Jose, California	Fuel Blending, Solvent Recycling Treatment		

EXHIBIT 2

CURRENT WASTE PROFILE FORMS

Van Waters & Rogers Inc. subsidary of Univar

PENT MATERIALS/WASTE PRODUCTS SURVEY

OFFICE	
USE ONLY	-
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COMPANY		Annual distriction of the second	W. S.		EPA I	D No. ((Federal)	ID.	No. (Sirie) SIC
								<u> </u>	
BILLING ADDRESS STREET	·	DMAN	NIFEST A	ADDRESS	PLANT ADDR STREET	ESS		•	MANIFEST ADDRE
СПУ		STAT	E	ZIP	CITY			- Allerian	STATE ZIP
E PRIMARY WASTE	CONSTITUENTS	MIN	MAX	TYPICAL	DESCRIPTION	OF W	/ASTE	*	
		1						***************************************	
					-			Heiston and the second	
Water									
Nonvolatiles			- C		Manifest To:	M	a C1	((CED	40 261
VOLUME (gallons) Frequency	Pack	ina I S	Shipping	mes63(10.		EPA		PA Hazard Code(s)
	E Month E Week	ווים ב		2 Drums		l	HAZARDOUS		check one or more)
Storage Capacity (gal		. – .		; Diums : Bulk		i	WASTE		CT (toxic)
Signade Ashacità (Asi	! One time	3 11.00	" <u>-</u>	. Gen	ln wr	•	DESCRIPTION		I (ignitable)
	. 6/16 41116				D AMK				R (reactive)
						1			C (corrosive)
T. P.O. for qualific	cation analysis #								DE (EP toxic) H (acute hazard)
3									
	T exempt hazardous n					Ì	EPA Hazar	dous W	Vaste Number(s)
	, I will use my own shi	pping cont	ainers. [J Yes P.O		_]	(che		or more)
The sample I am/w	rill submit to			-			□ D001		0
	iance with EPA SW-84	6 guideline	s. (checi	k one) 🛚 '	Yes Li No	į	☐ F001		D
And the second s	efety data sheets for re			سىچىمىسىسىسىنىنىنىنى		ira l	☐ F002		
	communication under 2			III IIIE MA	rata attucti tadis		□ F003		0
	Something the state of the stat		V-14-VV.				□ F005		
Check the following	g substances which ma	av be in the	e waste s	stream (Ch	eck one or more	e) {		EDA LI	
	centrations or ranges.	•		•			☐ Not an EPA Hazardous Waste		
	FESCUSY	•	penzoluren		earl characters	, C	Ref.	CFR 4	9 172.101
become			methyl sou	- o		1	DOT		DOT UNINA #
		,	•		_ hydrogumoru		HAZARDOUS		(check one)
			with acryla		•	F	MATERIAL DESCRIPTION		□ UN 2831
FEQUAL	acrylic acid	6	emethyl sudd	e16	ecrytonarde	ı			■ UN 1993
	monochloroscous acid	&	MUSIC NOOTH		Shortperm		DOT Hazard Clas	33	D UN 1593
	&-respendence		wertryd wherefi f	istore	and bronce	Į.	(check one)		□ NA 9189
\$77 0 76	snathytchioroformete	ø	chiorosthyla	\$8484 ——	eliyi Creorese	ı	☐ Combustible i		□ UN 1090
	1,1-denstrymycelive		*********	a	6 st onellers	ı	☐ Flammable liq		□ NA 1993
e-e-e-e	reduscos Referals		mylene den	-	605/00/00/00		ORM-A DOR	M-E	□ UN 1710
			•	- •			C	-	0
	2 6-6		ensityi toris						ing Name
8764	bokuene Greatyensie	· 🗪	remaind receive	M9/6		(Check one)			
	Seopylana Gylcol Ganista	&	renc	40	skyi stoohol	The second state second opposite			
	Nezechtorontohitsione	@	pechlonomyda	rifi	torre ests				
	_ swittens blica counses	#	Prytoria ditor	19925a	57676968	E Waste Methylene Chloride			
P88	berechbrochycloperasser	wa ad	cessons cheu		formeddawyda	Hazardous Waste Liquid, NOS _			
	,					Ì		-	2014 61
None of the above are in the waste stream.					☐ Waste Combu				
	itain any OSHA carcino				ievel? See 29 Cl	R		· we trip'i	ngo e e de
Part 1910.1001 the	rough 1910.1018. (Che	ck one) Ys	18 N	ło			<u>ــــــــــــــــــــــــــــــــــــ</u>		
To the best of my	knowledge, this is an	accurate d	@8C(101104	n of this m	nalerial.		C Not a DOT he		.c. Produced
Name (Type or print)	8				Title		L ROLE DOL M	ZETOOL	73 marensi
And the state of t							Name of the last o		
anulan _w .					Date		Phone Numb	er (inci	ude atea code)
•		•			Į		}		
			y = 1/4 1/4 1/4 1/4 1/4					Carlo Designation	
		Salesper	son (prin	t or type)	-	C Ous	iklicetion		Service Center No.
		{			-		DOXNO KA		1 , ,

EXHIBIT 3

GUIDELINES FOR SAMPLING WASTE CONTAINERS

GUIDELINES FOR SAMPLING DRUMS

(RE: SW-846 - Test Methods for Evaluating Solid Waste)

Compare component concentrations of Waste Survey Form against the approved list and the banned list of the selected permitted TSDF. Only sample when:

- 1. The components are within the range (upper limit) and not on the banned list;
- 2. The pH is >2.0 and <12.0;
- 3. Two or more components meet the mixture rule;
- 4. Any component is >3 times the maximum level;
- 5. The concentrations are less than the maximum concentrations for specific components.

Submit estimated composition of any questionable wastes to TSDF's Technical Services Departments for safety and health screening prior to sampling.

Upon meeting the above conditions, the generator may sample. The following procedures apply:

- Obtain ChemCare(TM) sample shipping package;
- If pulling a liquid sample from a container, use a COLIWASA sampler;
- 3. Avoid sampling in confined spaces or where odors persist;
- Get additional ventilation when needed;

the property of the property o

- 5. Make sure sampling device and sample jar are clean;
- 6. Where disposable gloves compatible with the sampled material;
- 7. Use sampling methods outlined in <u>Test Methods for Evaluating Solid Waste</u>, <u>Physical/Chemical Methods</u>, SW-846;
- 8. Insert sampling device slowly with moderate force to bottom of pumpable liquid;
- Reinsert drum bungs as soon as possible after sampling;

- 10. Promptly flush with water any part of your body that comes in contact with waste;
- 11. Promptly remove any clothing contaminated with waste;
- 12. Leave a minimum 1-inch airspace in the top of the sample jar;
- 13. Clean sampling device for disposal (or reuse);
- 14. Complete sample label, and insert sample jar and original waste survey form into ChemCare(TM) sample shipping pack;
- 15. Ship sample and survey form directly to the selected permitted TSDF or other analytical laboratory.

EXHIBIT 4

TYPICAL TEST RESULTS



30784 - - - - - - 2304 FUELS PRE/SHIP ANALYSIS - COMPLETE

CUSTOMER SURVEY CUSTOMER COPY RUN DATE 07/08/88

SAMPLE #: 024153

AUTH#

* * E N V I R O S Y S T E W S * *

KIMBALL ELECTRONICS 1038 E. 15TH ST.

JASPER

IN 47546

FEDERAL EPA ID: INDO94205614 COUNTY: DUBOIS WATURE OF BUSINESS: PRINTED CIRCUIT BOARDS STATE EPA: IL.: MO. ID: MANIFEST ADDRESS IS FACILITY MANIFEST TO SAFETY-KLEEN AATERIAL DESCRIPTION: MATERIAL COMPOSITION (VOL%): MAX TYPICAL 100.0 SILK SCREEN SOLVENT CLEANER ARDMATIC HYDROCARBONS 70.0 PROCESS DESCRIPTION: XYLENES 100.0 25.0 SCREEN WASH /OLUME 55 GALS PER MONTH /OLUME ON HAND 55 STORAGE CAPACITY 200 IN DRUMS "SING FREQUENCY: 30 DAYS IN DRUMS : GREEN : ONE 10.0 5.0 WATER HYSICAL STATE: LIQUID NON-VOLATILE MATERIAL 'ISCOSITY : LOW SETTLED SOLIDS ESTRICTED SUBSTANCES: NONE .O.T HAZARDOUS MATERIAL DESCRIPTION: EPA HAZARDOUS WASTE DESCRIPTION: ROPER SHIPPING NAME: VASTE FLAMMABLE LIQUID NO(5): FO05 CODES: IGNITABLE MAZARO CLASS: FLAMMABLE LIQUID HAZARD NO. : NA1142 Y.O. NO: AVGANIC CONVRSN TYPE OF SAMPLE: GRAB

#DRUMS:

APPROVED FACILITIES

TAKEN BY: CUSTOMER PHONE: 812/634-4200 TITLE: FOREMAN

CONTACT: LARRY POWELL COMMENT: VWR INDIANAPOLIS

JALESPERSON: VAN WATERS TERRITORY: 5555 DATE: 06/08/88

.NALYST: WLC REVIEWER: WLC ANALYZED: 06/30/88 CRPORATE REVIEWS: DISPOSITION REVIEWER DATE

> TECHNICAL: ACCEPT JWH 07/08/88 658 SK NEWCASTLE, KY

> REGULATORY: ACCEPT JWH 07/08/88 OPERATING: 07/08/88 ACCEPT IWG

K D.O.T. #: 0001002 DRUMS OR BULK

RQ WASTE FLAMMABLE LIQUID N.O.S.

FLAMMABLE LIQUID UN1993

(EPA F003)

1002

COMMENT: OK FOR CLASS A FUEL. SURVEY EPA DESCRIPTION INCORRECT...

PRICING CODE: FA

THIS SERVES AS NOTICE PER, 40CFR264.12(B), THAT THE FACILITY(IES) NOTED ABOVE HAS THE APPROPRIATE PERMITS AND IS WILLING TO RECEIVE THE MATERIAL DESCRIBED.

30764 - R2304

CISTALL ELECTRONICS

FUELS

SAFETY-KLEEN CORP PRE/SHIP ANALYSIS - COMPLETE

MATERIAL ANALYSIS CUSTOMER COPY RUN DATE 07/08/88

CONTROL #: 018520

0.0

SAMPLE #: 024153

* * ENVIROSYSTEMS * *

COMPOSITION (VOL%): GENERAL ANALYSIS: TOTAL SAMPLE SPECIFIC GRAVITY AT 72 F 0.896

: GREEN API GRAVITY : 0.0 COLOR dY APPEARANCE

FLAMMABILITY : QUEDUS PHASE: 0.0 % WATER CONTENT: 0.3 WT% FLASHED AT 100 F BY SETAFLASH DRGANIC PHASE: 100.0 % 6.1 WT% NON-VOLATILE :

BY PAPER 7.0 RADIOACTIVITY: N.D. BOTTOM SLUDGE: 0.0 % PH: EXTRACT

PPM SOTTOM SOLID : 0.0 % VISCOSITY : <50 CPS ₽CB : N.D.

ECOVERY EVALUATION (VOL%): TOTAL SAMPLE DISTILLATE ANALYSIS:

BOTTOMS OIL : 0.0 % BOTTOMS VISCOSITY : BY

- BOTTOMS DESCRIPTION: DIL/DEPOSIT BOTTOMS NON DIL: 20.0 % BOOD JATER EMULSION : 0.0 %

: 80.0 % ESTIMATED RECOVERY : 0.0 VOL% ACID ACCEPT: WTX DISTILLATE

"UEL EVALUATION (WT%): TOTAL SAMPLE

0.0 % HEAT CONTENT: 17100 BTU/LB BROMINE: 0.0 % 5.4 % FLUORINE: HALDGENS: 0.0 % ASH: SULFUR:

CHLORINE: 0.1 % . PHOSPHORUS: 0.0 %

CLATILE ORGANIC COMPOSITION: TOTAL SAMPLE 8Y FID UNITS: WEIGHT %

98.4 YLENES TOLUENE 0.3 .OW-BOILING ALIPHATIC HYDROCARBONS MINERAL SPIRITS 0.3 0.3 AROMATIC HYDROCARBONS 0.2

IMONENE, D-0.3 SUTYROLACTONE. GAMMA-0.2

UMMARY: ALCOHOLS KETONES O.O CHLDRINATED SOLVENTS 0.0 0.0 **ESTERS** ALIPHATIC HYDROCARBONS . 0.6 AROMATIC HYDROCARBONS 98.9 0.0

0.5 MISCELLANEOUS 0.0 INHIBITORS O.O DTHERS

DOITIONAL ANALYTICAL INFO: LOW CHLORIDE FUEL

WASTE CHARACTERIZATION QUESTIONNAIRE

Laldlaw Environmental Services

B. Physical Characteristics of Waste Color Color Oder II None II Mild Physical state @80°F Layers Free Equids pH Specific gravity NONE II Solid I I I Schild I I I Multi-layered Mourse % 42 1.3-1.4 II Open con II Ober Composition (Total must add to 100%) C. Chemical Composition (Total must add to 100%) D. Metalia Xfolar I I PPA straction Procedure Xingle phase Year	A. General Information Generator name GENERAL ELOC Facility address 1350 TENNES CINCIP NATI	SEE AVE TITLE	MGK ENV	ZK WANEK HEALTH+SAF 79-6523 New ICAL CLEM	Transporter	PING of M	T TO THE PERSON OF THE PERSON
Cyan	B. Physical Characteristics of Waste					data and a second se	
C. Chemical Composition (Total must add to 100%) D. Matals Xiotal I PPExtraction Procedure Asseric (As) Lott PPM Mercury (Hg) Lot PPM Nickel (Hi) 7000 - 7000 PPM Asseric (As) Lott PPM Lead (Pb) 3-4 PPM Zinc (Zn) UNZNOWN PLSSPLORIC ACID 10-20 % Bairum (Rg) Lott PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Hz O Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Cadmium (Cd) 1-2 PPM Selenium (Se) L 4 PPM Zinc (Zn) UNZNOWN Thallum (Ti) UNZNOWN Thallum (Green/ MSIrong	I.I Solid II Semi-se	olid I 1 Multi-laye	red XYes 111	10		NONE
NITRIC ACID 16-30 % Arsenic (As) Col.4 PPM Lead (Pb) 3-4 PPM Zinc (Zol.) UDIX POLICY	Gray Describe Acib	Kridnia 11 bowgei	,		5 2 2	1.3-1.4	' '
B. Other Components - Total PPM LEAVE BLANK - FOR LAIDLAW USE ONLY Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Only Grease Only Grease Only Only Grease Only	NITRIC ACID Phosphoric ACID H2O,	16-30 % 10-20 % 60-80 % 1-5 %	Arsenic (As) <u>40</u> Barium (Ba) <u>40</u> Cadmium (Cd) <u>1</u> Chromium (Cr) <u>400</u>	4 PPM Mercury (1 4 PPM Lead (Pb) 2 PPM Selenium -600 PPM Silver (Ac)	19) <u>2 0,2 PPM</u> 3-4 PPM (Se) <u>2 4 PPM</u> 2 4 PPM	· Zinc (Zn) じい	KNOWN
E. Shipping Information Generator USEPA IDM OHD OOO 817304 Transporter USEPA IDM OHD OOO 817304 USEPA hazardous waste? Kyes I No USEPA hazardous waste? Kyes I No USEPA Codeol DOOZ DOOG DOO7 Shipping name CORROSIUE LIQUID NOS Phospical IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name CORROSIUE MATERIAL ACIT IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material Hazard class Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material Hazard class Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosive Material IDM UN 1760 Reportable Quantity 1000 Lbs Shipping name Corrosiv	Oil & greaso	% %	Cyanides	PCBs O	Date Received	20490)
Office CORCOSIVE TANKEL	F. Shipping Information Generalor USEPA ID# Transporter USEPA ID# USEPA hazardoùs wasie? KYes I No USEPA Code(s) State, hydridous wasie Yes No State, hydridous wasie Yes No State, hydridous Wasie Yes No Other hazardous Characteristics None (I Radioactive I Etiological	06, D007	MATERIAL SAFETY DATA	D.O.T. hazardous materic Proper D.O.T. shipping of Hazard class CORM 1.D.M 176 Shipment method D. Anticipated volume Per 1: One lime 1 H. Special Handling in STAIDLESS 2) VACUUM 3) 30 feet	al XYes : INO / name CORROSIUG COSIUG MATE O Repondat (Bulk liquid i Bulk so ZOOD gals. I Week I I Month Description: TAWKER POMP HOSE	LIQUID NOS FRIAL DIE Quantity 1000 id II Drum (type/size — cubic yards — (Quarter II Year	NITRIC/ PhosphoRic Acit Lbs e) drums

Licertify that all information on this form is complete and factual and accurately represents the waste to be disposed. The waste does not contain PCB, insecticides, herbicides, infectious or radioactive waste.

MARK R. WANEK

Signature

Mar Envir Health + Safety

9/27/90



WASTE DISPOSAL PREQUALIFICATION ANALYSIS

ANALYSIS DATE

October 12, 1990

GENERATOR

General Electric ACSC

Cincinnati, Ohio

TYPE OF WASTE

Nitric/Phosphoric acid

LAIDLAW LAB NO.

6648

LAIDLAW CODE NO.

STC 74-3368

Physical Characteristics:

Green color with light turbidity and a strong nitric acid odor.

Chemical Characteristics:

Н	0.0	S.U.
Cyanide	<1	mg/l
COD	3,920	mg/l
Total Suspended Solids	320	mg/l
Phenol	1.4	mg/l
Nitrate	264,000	mg/l
Hexavalent Chromium	<5	mg/l
Sulfate	<850	mg/l
Phosphate	301,000	mg/l
Ammonia	<10	mg/l
Normality @pH=4.0	9.73	
@pH=9.0	14.18	

Metals:

Cadmium		0.33	mg/l
Chromium		343	mg/l
Copper		0.82	mg/l
Iron		216	mg/1
Nickel		5,100	mg/l
Lead	- ·	<1	mg/l
Zinc		1.81	mg/l

Released: October 24, 1990

jh

Laboratory Services Manager

Sala,

GENERATOR'S WASTE

UH'S WASTE PLEASE PRINT IN IN POLITIC EURON

12/27/89

12/27/89

12/27/89



K 28544 Waste Profile Sheet Code

M Location of Original: 8 curl (SHA	CWM Sales Rep. #: 153
	enerator USEPA ID: OHDOS9 106484 enerator State ID:5. Zip Code: 45241
echnical Contact: BYREN BOG9S 7. Title: SAFEY	14gts 8. Phone: (5/3) 733 - (2/07)
MAIL CHEMICAL WASTE MANAGEMENT, INC. INVOICES JO 1. Gentlempany Name: VAN WATERS + REGIETS ddress: 3025 Exon AUE CINCINNATI OLIO 4524,	
3. Is this waste a Dioxin listed waste as defined in 40 CFR 261.31 (e.g., F020 Yes No Ifyes, DO NOT COMPLETE this form. Contactyour Chemical W	
PHYSICAL CHARACTERISTICS OF WASTE plor: 2. Does the waste have a strong incidental odor? Strong incidental odor? Solid Semi-Solid Multilate Powder Bi-layer describe.	red Range: Volume:
4: □≤2 □>2-4 □4-7 □7 · □7-10 □10-<12.5 iquid Flash Point: □<73°F □73-99°F □100-139°F □140-199°F □	□ ≥ 12.5 🛱 Range <u>6 - 8"</u> □ NA ≥ 200°F 🕅 None □ Closed Cup □ Open Cup
HEMICAL COMPOSITION RANGE MIN MAX. 85 - 960 %	F. METALS Indicate if this waste contains any of the following: 1.
Cyanides □ 50 ppm ppm Phenolics □ < 50 ppm	

< 50 ppm

GENERATOR'S WASTE MATERIAL PROFILE SHEET (Continued)

	K 28544
	Waste Profile Sheet Code
OTHER HAZARDOUS CHARACTERISTICS Is this waste a listed solvent waste as defined by 4. Does this waste contain greater than 1000 ppm to Indicate if this waste is any of the following: RCRA Reactive Radioactive Stook Sensitive Pesticide Manufactu Shock Sensitive Pyrophoric	ring Waste
COMPLETE ONLY FOR WASTES INTENDED FOR FUELS OF INCINERATION LESS THAN OF ACTUAL	I. OPTIONAL — RECLAMATION, FUELS, OR INCINERATION PARAMETERS Provide if information is available. Range 1. Heat Value (BTU/lb):
ryllium	3. Viscosity (cps):@°F 100°F 150°F 4. Ash:% 5. Settleable solids:% 6. Vapor Pressure @ STP (mm/Hg): 7. Is this waste a pumpable liquid? Yes No Type of pump?
tal Fluorine	8. Can this waste be heated to improve flow? Yes No 9. Is this waste soluble in water? Yes No 10. Particle size: Will the solid portion of this waste pass through a 1/8 inch screen? Yes No
	No 2. Anticipated Annual Volume/Units: 50 10m QUID (trich long trifluoroethane) 5. I.D. #: FOOZ NA 9189
Method of Shipment: ☐ Bulk Liquid ☐ Bulk Sc CERCLA Reportable Quantity (RQ): USEPA Hazardous Waste? ☐ Yes ☐ No 1	Olid Drum (Type/Size): 55 / 6AL Other: 9. RQ Units (Ib/kg): 100/45.4 11. USEPA Hazardous Waste Number(s): F007 13. State Hazardous Waste Number(s): cs
SPECIAL HANDLING INFORMATION	
	Additional Page(s) Attached
GENERATOR CERTIFICATION I hereby certify that curate descriptions of this waste material, and all rele generator has been disclosed.	all information submitted in this and all attached documents contains true and evant information regarding known or suspected hazards in the possession of
Tie Dozgo	2 Safatu Manager Title 4. 12-13-89
Name (Type or Print)	4. 12-13-87 Date

Chemical Waste Management, Inc.

ADDENDUM TO GENERATOR'S WASTE MATERIAL PROFILE SHEET FOR LAND DISPOSAL RESTRICTIONS

CWM Location	of Original		(shaded area	for CWM use	only)	
OF THIS PA	AGE.					I ARE FOUND ON THE OPPOSITE SIDE
1. Generator N	Vame:	neinnati	Electron	1/c5		
2. USEPA ID N	Number:	4/2/0/5/9/1	101641814			
3. Waste Profil	le Sheet Co	de:[K]2 8 5 4	<u> </u>	Freen		
B. WASTE STR	EAM INFO	NOITAME				
1. Is this a US	EPA hazard	ous waste?	E Yes □ No			
2. If yes, is thi	is waste:	☐ Characteris	stic © Listed	☐ Both		
a. Is this wast	e a nonwas	tewater or a wa	stewater? Check Oi	VE: 12 Nor	wastev	vater Wastewater
each waste 268.41, 268.4	number, ide 42. and 268.	ntify the subca 43). The following	itegory (as applicab	le, check none lave subcatego	, or wri	pply (as defined by 40 CFR 261). For te in the description from 40 CFR 001, D002, D003, D006, D008, D009, 51.
USEPA		SUBCATEGOR	Y	USEPA		SUBCATEGORY
HAZARDOUS TE NO. N	ONE	DESCRIPT	LION	HAZARDOUS WASTE NO.	NONE	DESCRIPTION
,002	又	- 120,0 - 2020,0 "220,0 - 7 22, "				
					4 .	
				,		
		_				
						:
tional page (CWI	M-6000-B) is	used, please o	nd subcategories, u theck here: □ ste No. D008, identi		٠	sheet provided (CWM-6000-B). If an addi-
4. Is this waste						es, Both; 🔲 No, Neither
tains true an	id accurate ne posession	descriptions of	y certify that all info this waste material tor has been disclo	and all relevan	nt infor	this and all attached documents conmation regarding known or suspected

CWM Resource Recovery, Inc. West Carrollton, Ohio

Sales Sample Analysis Sheet

Customer:

CINCINNATI ELECTRONICS

iddress:

2630 GLENDALE MILFORD

lity:

CINCINNATI,

3tate:

OH

JFS Number:

K28544

Treatment Method:

Bample Number:

B91992

Fuels

1aterial Description:

WASTE FREON

Jon-Volatile Material:

1.59

Specific Gravity:

1.391

rs:

3TU/Gallon:

N/A

Halogens, %:

N/A

Jater:

Free:

NONE

Soluble:

Q.47

³ercent Recovery:

NZA

Composition:

Components

FREON - 73.8%

MEOH - 25.1



January 31, 1990

specialists in environmental technology
SYSTECH
ENVIRONMENTAL
CORPORATION

245 North Valley Road Xenia, Ohio 45385-9354 513/372-8077 513/429-2533 Fax 513/372-8099

Ms. Brenda Bailey Van Waters & Rogers Inc. 3025 Exon Avenue Cincinnati, OH 45241

Dear Ms. Bailey:

With the waste stream of Elano Corporation qualified at our Paulding, Ohio, facility, Systech will dispose of your generator's waste.

The following price quotation is as follows:

Generator Sample No. Transport Method Disposal Price

Elano Corporation 190 Drums \$45/Drum - Class 1

The surcharges that apply to drummed waste will be:

Chlorine: 4.1 to 6.0 percent - \$10/drum

6.1 to 8.0 percent - \$20/drum 8.1 to 10 percent - \$30/drum

Btu: 8,001 to 10,000 Btu - \$10/drum 6,000 to 8,000 Btu - \$20/drum

0,000 20 0,000 200 720,000

\$15/gallon for non-processible debris \$15/drum for deheading

Overpacks not accepted Plastic drums will be returned to Generator

10 drum composite performed to apply surcharges

Pre-qualification analytical information:

Btu/lb: 19,800 Btu/lb Chlorine: .6 percent

Water: N/A percent



Van Waters & Rogers
3025 Exon Ave., Evendale, Cincinnati, OH 45241
(513) 563-2440



Profile 0193
Date Received

SYSTECH ENVIRONMENTAL CORPORATION

(513) 372-8077

STECH

(513) 372-8099 (FAX).

1-800-888-8011 (Corporate Sales)

WASTE PROFILE FOR QUALIFYING MATERIALS AS FUEL

This form should be filled out *completely** and **signed by a responsible representative of the generator.** Attach MSDSs for the waste or primary raw materials.

Generator	ELANO CORP
Technical Co	ontact Chareles IVIX
Address	2455 DAYTON - XONIA Rd
City Xe	State Ohio Zip 45385
Phone (51	3) 426 - 06 21 Emergency Phone (513) 426 - 06 21
	EPA ID No. <u>CHD 004241139</u>
1. Identification of wa	aste LUNSTE H: FLASH 140 (STODDARD SOLVENT)
2. Activity producing	wasteDEGRENSING SCLVENT
	available 55 gal lb yd³/ yrmoBulk
4. Is the waste	liquid solid sludge aqueous organic inorganic?Systar
5. Is the waste	hazardous nonhazardous? Drums
If hazardous, give	EPA Waste No.(s) D-001 scription RO WASTE PETROLEUM NAPTHA Combusti
DOT Shipping des	oximate concentrations for primary raw materials entering the waste or provide a waste
analysis, if availab	ble. Account for 100 percent of the waste. Include any compounds on the back of this un
form which may b	pe present.
MINERAL ST	P. 275 80 - 95%
OIL + GYPA	SE 5-70% 0-5%
DIET	0 3 78
7. <u> </u>	one of the compounds on the back of this form are present in the waste stream)
B. Is the waste	ignitable corrosive reactive radioactive EP toxic?
✓ ves no	ng submitted to Systech representative of the waste stream?
0. Generator signatu	ire <u>Managel Stotas</u> Title 12/1/89 Date 12-1-89
ChemCare Partn —	Van Waters & Rogers Inc. Phone (513) 563-2440
Billing address	3025 Exon Avenue
3	Cincinnati, Ohio 45241

aterial profile

Name of Waste Stream

waste Filters + Debrie

GSX Use Only

Generalor Name VAN Leen Contoinen Pro Facility Address 526 MAZKWITH Bre City 6 Reen Uille State 0/10 Zip Code 45331 EPA Identification Number 0/10 00 425 3803	Title Telephone Billing Addi	FAC MIZA (5/3) 5 ress <u>VAN</u> 3025	Is Sample Available Upon Request? Wasters + Progens Exm Que State OH' Uzip 45331	
Process Generating Waste Collection of Filters, I Rate Of Generation 20 to 30 Drz / Yr Cort. Does this waste contain spent solvents (F001 through F005)? Y 2. Is this waste listed for Dioxin as defined in 40 CFR 261,31? (F02 3. Is this waste INFECTIOUS? Y N Is 14. If you answered yes to questions 2 or 3,DO NOT CONTINUE.	N 20 - F023 and F026 - 28) II RADIOACTIVE? Y	Materials listed u Y N N	nder the California list? Y N N N Does It contain PCB's > 50ppm? Y N N	
Chemical Constituents (Must Total 100%) Filters i-Basa 90 for Tallusere 0-10 Please Altach All MSDS's, Sample Analysis and Additional Info.)	Layers: None Free Liquids (%) Viscosity: Low Is Material Pumpable? Specific Weight (lbs./ga Appearance	Semi Two Precipitate Medium Yes	High	
Metals (ppm) Total EP Total EP As .05 Cr(Total) 97.35 EP Ag .05 Cr(Hex) 97.35 Cr(Hex) 97.35 Cd .05 Hg 4.05 Se A5.36 Pb 42.72 Se A5.36 Se	TI	Total Si Na Ni	Other: (Specify in PPM) Free Cyanide	
I certify to the best of my knowledge and ability that the information provided is accurate (2015) Luggeneous	e complete and true.	9-21-90	Information Completed By: Name: Don Jegul. Title: UN WETH: V Press Date 7-31-7	C^{\dagger}

COVERY SYSTEMS, INC.

LABORATORY REF. NO.: 1908

DATE: 9/26/89

PROFILE NO.: VWR-Z098

NERATOR: VANLEER CONTAINER, INC. CITY: GREENVILLE

STATE: OH

ROKER: VWR-GREENBRIER

SCRIPTION: WASTE FILTERS AND RAGS

PROVAL NO: VWR-Z098A MANIFEST NO:

TRUCK NO:

VOLUME % HYDROCARBON: 0.0 VOLUME % INCOMPATIBLE: 0.0 VOLUME % SOLIDS:100.0 VOLUME % WATER: 0.0

TOTAL: 100.0

DEGREES API: N/A @ DEGREES F:

LBS/GAL: N/A

pH: 7

COLOR: MULTICOLOR

LASH POINT DEGREES F (PMCC): N/A

VISCOSITY: HIGH

BTU/LB: 9120

OTAL ORGANIC HALOGENS (PPM): 2666

TOH (WT.%): .27

PCB'S (PPM): *<40

MMENTS: WASTE STREAMS WILL BE CONSIDERED NON-CONFORMING IF THE WASTE STREAM DEVIATES > 15% FROM THE ABOVE LISTED PARAMETERS.

> NON-CONFORMING WASTE STREAMS MUST BE REEVALUATED FOR ACCEPTABILITY BASED ON THIS FACILITIES FEDERAL AND STATE PERMITTING.

IF THE NON-CONFORMING WASTE IS DEEMED ACCEPTABLE BY PERMITTING THEN ADDITIONAL CHARGES WILL BE ASSESSED UPON NOTIFICATION OR PREVIOUS AGREEMENT FOR THESE SITUATIONS.

IF ANY LEVEL OF PCB'S ARE DETECTED THE FOLLOWING PROCEDURES WILL BE IMPOSED:

GENERATOR WILL BE NOTIFIED AND GIVE APPROVAL OR DISAPPROVAL FOR FURTHER TESTING. IF APPROVED A SAMPLE OF EACH CONTAINER SHIPPED WILL BE COLLECTED A PCB ANALYSIS WILL BE PREFORMED ON EACH SAMPLE. IF ANY SAMPLE ANALYSIS THECTS PCB LEVELS GREATER THAN 40 PPM'S THEN THE CORRESPONDING CONTAINERS L BE REJECTED. THE GENERATOR WILL BE RESPONSIBLE FOR THE COST OF THE ADDITIONAL ANALYSIS OR THE ENTIRE WASTE STREAM WILL BE REJECTED.

HAZARDOUS WASTE PICK-UP CHECKLIST

HAZARDOUS WASTE PICK-UP CHECKLIST

Generator Name:
Manifest Number:
Date:
BEFORE YOU GO
Make sure you take along a copy of the manifest.
Take extra copies of blank manifests.
Take extra copies of blank Land Disposal Restriction Statements.
Take the ChemCare(TM) agreement.
AT THE GENERATOR'S FACILITY
CHECK THE MANIFEST
Generator's EPA I.D. Number and the Manifest Number.
Generator information (name, address, ID#, phone).
Transporter information (name, address, ID#, phone).
TSDF information.
DOT proper shipping description, number of drums, amount (gallons or pounds), EPA waste code.
Special instructions to the transporter or the TSDF may be entered under the area listing the wastes.
Generator certification (names and dates) - be sure signatures go through carbons and appear on all copies.
LAND DISPOSAL RESTRICTION NOTIFICATION STATEMENTS
Generator information.
Manifest number and date.
Type of waste - EPA waste code.
Waste constituents and applicable treatment standards identified.

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CONDITION OF THE DRUMS
Should be 17E drums or Spec 57 portable tanks (others must be authorized by Branch Operations Manager).
Must be clean and in good shape (minimum rust and dents).
No side bungs (unless authorized by Branch Operations Manager).
Check for potential cross-contamination (for example: waste freon in drums that used to contain flammables).
HAZARDOUS WASTE LABELS
Must be on every container.
Information must be legible and match information on the manifest.
Proper DOT shipping description.
Generator information.
Manifest number.
UN or NA number.
Accumulation start date.
EPA waste code.
Appropriate DOT hazard class labels (for example: Flammable diamond).
All other labels or markings removed or obliterated (sample ID or lot numbers may be stenciled on containers).
* * * * * * * * * * * * * * * * * * * *

If any of the above is incomplete or incorrect, then the waste containers should not be picked-up. Ask if you may use the phone and call your Branch Operations Manager for advice. If he/she is not available, then call the Area Operations Manager or Regional Operations.

SAMPLE LAND DISPOSAL RESTRICTIONS NOTIFICATION FORM

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM Manifest Doc. No.: Generator Name: State Manifest No.: CWM Profile Number 1. Is this waste a non-wastewater or a wastewater? (See 40 CFR 268.2) Check ONE: Non-Wastewater ☐ Wastewater 2. If this waste is subject to any California List restrictions enter the letter from below (either A, or B2) next to each restriction that Metals, Cyanides. HOCs, PCBs, Acid, is applicable: 3. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code. identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Also check which treatment standards apply. Spent solvent and California List treatment standards are listed on the back of this form. If F039, multi-source leachate applies, those standards must be attached by the generator. 6. APPLICABLE TREATMENT 7. HOW MUST SUBCATEGORY US EPA **STANDARDS** HAZARDOUS THE WASTE E ENTER THE SUBCATEGORY DESCRIPTION WASTE BE MANAGED 6.b - SPECIFIED 6.a -F - IF NOT APPLICABLE. ENTER THE TECHNOLOGY: CODE(S) PERFORMANCE SIMPLY CHECK NONE LETTER FROM IF APPI ICASI E BASED: EXTER THE 40 CFR 3444 BELOW CHECK AS APPLICABLE Æ TABLE I TREATMENT CODEIST DESCRIPTION NONE 268.41(a) 268.43(a) 268.42 3 3 4 5 6 7 3 9 10 To list additional USEPA waste code(s) and subcategory(s), use the supplemental sheet provided (CWM-2001-B) and check here: \Box HOW MUST THE WASTE BE MANAGED? In column 7 above, enter the letter (A, B1, B2, B3, C, or D) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B2, B3, or D, you are making the appropriate certification as provided below. RESTRICTED WASTE REQUIRES TREATMENT This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268 Subpart D, 268.32, or RCRA Section 3004(d). **B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS** "I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained property so as to comply with the performance levels specified in 40 CFR part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA Section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false cartification, including the possibility of a fine and imprisonment. B.2 RESTRICTED WASTES FOR WHICH THE TREATMENT STANDARD IS EXPRESSED AS A SPECIFIED TECHNOLOGY (AND THE WASTE HAS BEEN TREATED BY THAT TECHNOLOGY) "I certify under penalty of law that the wasta has been treated in accordance with the requirements of 40 CFR 268.42. I am aware that there are significant penaltics for submitting a false certification, including the possibility of fine and imprisonment." B.3 GOOD FAITH ANALYTICAL CERTIFICATION - FOR INCINERATED ORGANICS "I certify under pensity of law that I have personally examined and am familiar with the treatment recomployy and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information. I believe that the nonwestewater organic constituents have been treated by incineration in units operated in accordance with 40 CFR Part 264 Subpart O or Part 265 Subpart O, or by combustion in fuel substitution units operating in accordance with applicable technical requirements, and I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am sware that there are significant penalties for submitting a false certification. including the possibility of fine and imprisonment." C. RESTRICTED WASTE SUBJECT TO A VARIANCE This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 7 above. D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT "I have determined that this waste meets all applicable treatment standards act forth is 40 CFR Part 268 Subpart D, and all applicable prohibition levels set forth in Section 268.32 or RCRA Section 3004(d), and therefore, can be land disposed without further treatment. A copy of all applicable treatment standards and specified treatment methods is maintained at the treatment, storage and disposal facility named above. I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth on 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting false certification, including the possibility of a fine and imprisonment. I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Title

Date

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM - REVERSE SIDE SOLVENT AND CALIFORNIA LIST TREATMENT STANDARDS

If the waste identified on the other side of this form is described by any of the following US EPA hazardous waste codes: F001, F002, F003, F004, F005, and/or this hazardous waste is subject to any prohibitions identified as California List restrictions (40 CFR 268.32 and/or RCRA Section 3004(d)), then this page MUST accompany the shipment, along with the opposite side of this form. If the waste code F039 describes this waste, then the corresponding treatment standards must be attached.

SOLVENT WASTE TREATMENT STANDARDS					
F001 through F005 spent solvent Treatment Standard *		F001 through F005 spent solvent	Treatment	Standard •	
CSEPA hazardous waste code(s)	Westewaters	Nonvestewaters	CONSUMERUM AND THEIR SESOCIALED USEPA hazardous waste code(s)	Wastewaters	Nonwastewaters
Acetone (F003)	0.05	9ک.0	Methylene chlonde (F001, F002)	0.20	0.96
Benzene (F005)	40 CFR 268.43(a) - 0.07	40 CFR 268.43(a) - 3.7	Methylene chloride from pharmaceutical production (F001_F002_F003_F004_F005)	40 CFR 268.43(a) - 0.44	0.96
n-Buryl alcohol (F003)	5.0	5.0	Methyl ethyl kettone (F005)	0.05	0.75
Carbon disullide (F005)	1.05	4.81	Methyl isoburyl ketone (F003)	0.05	0.33
Carbon tetrachloride (F001)	0.05	0.96	Nitrobensens (FOO4)	0.66	0.125
Chiorobeazene (F002)	0.15	0.05	2-Nitropropase (F005)	40 CFR 268.42 - ((WETOX or CHOXD) belowe by CARBY) or BYCTH	40 CFR 268.43" - INCIN
Cresols (and cresylic acid) (P004)	2.82	0.75	Pyridine (F005)	1.12	0.33
Cyclohexanone (F003)	0.125	0.75	Tetrachioroethylene (F001, F002)	0.079	0.05
1.2-Dichlorobenzene (F002)	0.6.5	0.125	Toluene (F005)	1.12	0.33
2-Ethoryethanoi (FOOS) (also called ethylene glycol monoethyl ether)	40 CFR 268.42 - INCIN or BIODG	40 CFR 268.42 • INCIN	1.1.1-Trichloroethase (F001, F002)	1.05	0.41
Ethyl acetate (FW3)	0.05	0.75	1.1.2-Trichloroethane (F002)	40CFR 268.43(a) 0.03	40CFR 268.43(a) 7.6
Ethylbenzene (F003)	0.05	0.053	1.1.2-Trichloro-1.2.2- trifluoroethane (POO2)	1.05	. 0.96
Ethyl ether (F003)	0.05	0.75	Trichloroethylene (F001, F002)	0.062	0.091
Lsobutznoi (FOOS)	5.0	5.0	Trichloroenfluoromethane (F002)	0.05	0.96
Methanol (F003)	0.25	0.75	Xylene (F005)	0.05 ·	0.15

^{*} All spens solvens treatment standards are taken from 40 CFR Part 268.41(a), unless otherwise noted. Westerwater units are mg/L nonventewater are mg/kg.

CALIFORNIA LIST TREATMENT STANDARDS - 46 CFR 262.2. 46 CFR 262.2 and BCRA Section 1664(4) A waste must first be designated as a US EPA Hazardous waste before the waste can be subject to the California List restrictions.					
Restricted waste description	Prohibition	Treatment Standard			
Liquid* or nonliquid wastes containing Halogenated Organic Compounds listed in 40 CFR 268. Appendix III	Liquid ^a waster: Greater than or equal to 1,000 mg/l Nontiquid waster: Greater than or equal to 1,000 mg/kg	40 CFR 268.42(±)(2) - INCIN			
Liquid* wastes containing PolyChlorinased Biphenyls (PCBs)	Greater than or equal to 50 ppm	40 CFR 268.42(a)(1) - INCIN or FSUBS Also see 40 CFR 761.60 and .70			
Liquid® wastes containing Cyanides	Free (amenable to chlorination) cyanides at concentrations greater than or equal to LEOO mg/l	RCRA Section 3004(d)			
Liquid® wastes containing Metals	One or more of the following metals (or elements) at concentrations greater than or equal to the following: Arsenic and/or compounds as Ar. 500 mg/l Cadmium and/or compounds as Cd: 100 mg/l Chromium and/or compounds as Cr. 500 mg/l Lead and/or compounds as Pb: 500 mg/l Mercury and/or compounds as Fb: 20 mg/l Mickel and/or compounds as Ni: 134 mg/l Selenium and/or compounds as Th: 130 mg/l Thallium and/or compounds as Th: 130 mg/l	RCRA Section 3004(d)			
Liquid* Acid westes	pH is less then or equal to 2.0	RCRA Section 3004(4) (200 CFR 268.32(8)			

^{* -} For the definition of "liquid" refer to Method 9095, the Paint Filter Liquids Test from EPA manual SW-846

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM SUPPLEMENTAL PAGE # of * (* Count only supplemental pages)

rator Name:					Manifest Doc. No.:		
NN. Profile Number: State Manifest No.: This form is a continuation from Form CWM-2001-A for a waste identified by more than ten USEPA waste code/subcategories group							
nis form is a continuation from Form CWM-2001-A for a waste identified by more than ten CSLIA waste code/subcategories groups nis page by itself IS NOT an acceptable Land Disposal Notification and Certification Form!						.oups	
• -							
Continue (from form	CWM-2001-A) to identify ALL USE	PA hazai	dous wast	es that app	oly to this waste shipment	(as defined by 40	CFF
.61). For each waste	number, identify the corresponding s	ubcatego	ory (write i	n the desc	ription from 40 CFR 268.	41, .42 or .43, or	checi
NONE is the waste de	oes not have a subcategory.). Also is ogy standard (268.42) write the five	identity :	m column	/ WILCE LT da(c) in th	eaument standards apply.	is as estable is si	ubjec
o a specimen technological stranda	rds are listed on the back of the firs	t page. I	atment co 7039 treati	nent stand	lards, if applicable, must b	oe attached.	IOT III
4. US EPA	s. SUBCATEGORY	r D	1		E TREATMENT	7. HOW MUS	
RHAZARDOIN	5. SUBCATEGORI		o A		NDARDS	THE WAST	
E WASTE	ENTER THE SUBCATEGORY DESCR	NOTIFIE			6.b - SPECIFIED	BE MANAGE	l l
CODE(S)	- IF NOT APPLICABLE, SIMPLY CHECK NONE		1	a - RMANCE-	TECHNOLOGY:	ENTER THE	
			BA	SED:	IF APPLICABLE ENTER THE 40 CFR 2441-	LETTER FROM	
		المستسلية فيتراز والمسترق المستر	CHECK AS	APPLICABLE	TABLE I TREATMENT CODE(S)	NOTIFICATIO	
	DESCRIPTION	NONE	268.41(a)	268.43(a)	268.42 -	FORM	
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To list additional U	SEPA waste code(s) and subcategory(s), use	another s	upplemental	sheet (CW)	(-2001-B) and check here:		
	Il information submitted in this and a		• •	•	•	ne best of my kn	OWie
d information.		4000		ii U	improce and accurate, to the	ao ooo or my an	J
gnature		Title _	· · · · · · · · · · · · · · · · · · ·		Pago		
	o 1990 Chemical Waste !	Manageme	nt Inc 7/	/17/90 - Fon	n CWM-2001-B ∪ C		

LAND DISPOSAL NOTIFICATION AND CERTIFICATION-FORM INSTRUCTIONS - READ AND REMOVE THIS PAGE BEFORE USING THIS FORM

The USEPA Hazardous Waste Land Disposal Restrictions (40 CFR 268) require that every generator of restricted hazardous waste send, with every shipment of his aste, a notification that describes the waste and its status under the Land Ban regulations. This form should assist you in meeting these requirements. Effective May 1990, almost all hazardous wastes are restricted (have a treatment standard). The exceptions, for which there are no Land Disposal Restrictions (and no required notification) include: D018 through D043 (these become hazardous wastes effective 9/25/90), K064, K065, K066, K088, K090, K091, K017 through K110 (become on 11/2/90), K111, K112, K117, K118, K123, K124, K125, K126, K131, K132, K136, U328, U353, and U359. These wastes will be added to Part 268 in the future.

To properly manage your waste under the land disposal restrictions, it is essential that you accurately identify your waste. These are the same tests required to complete the Waste Profile Sheet. If your waste is different from the profile description, such as additional USEPA waste codes apply, or the characteristics or properties have changed, or the waste now requires treatment (when it did not earlier), then you must amend your profile and have the amendments approved by Chemical Waste Management. This must be done prior to scheduling and shipment of the waste. Once you have determined that the waste you are about to ship is consistent with your CWM-approved profile, you should prepare this form, and call the CWM facility to which you are shipping to schedule the waste. The following instructions should assist you in completing this form.

Generator Name: Write in the name of the generator, as it appears on your "Notification of Hazardous Waste Activity" form and your CWM Waste Profile Sheet. CWM Profile Number: Write in the six-digit CWM profile number here.

Manifest Doc. No.: Enter the unique five-digit manifest document number assigned by the generator, (written in the last five positions of item #1 of the manifest). State Manifest No.: If the manifest that is being used for this shipment has a state manifest number (item A of the manifest), then enter this number here.

- 1. Wastewater/Nonwastewater. Check only ONE box here, to indicate whether the waste is a honwastewater or a 'wastewater'. Wastewaters are wastes that contain less than one percent (1%) by weight Total Organic Carbon (TOC) and less than 1% by weight Total Suspended Solids (TSS), with the following exceptions: (1) F001. F002. F003. F004, F005 solvent-water mixtures are wastewaters if they contain less than 1% by weight TOC or less than 1% by weight total F001. F002. F003. FO04, FO05 solvent constituents listed in 268.41 Table CCWE. (2) K011, K013, and K014 wastewaters (as generated) contain less than 5% by weight TOC and less than 1% by weight TSS. (3) K103 and K104 wastewaters contain less than 4% by weight TOC and less than 1% by weight TSS. Any waste that does not meet the applicable definition of wastewater is a nonwastewater. See 40 CFR Part 268.2(a)(6).
- 2. California List Restrictions: If the waste is subject to any California List restrictions (which are not superceded by an explicit waste-code related treatment standard (268 Subpert D), then the letter from the bottom of the form that corresponds to the status of the restriction must be inserted next to any applicable restrictions. For example, if there are greater than or equal to 1.000 ppm of HOCs listed in Part 268 Appendix III that are not listed in the treatment standard for this waste, then you would put "A" next to "HOCs". If this is incinerator ash from hazardous waste that contained 50 ppm or more of PCBs, you would put "B2" next to "PCBs". " Note: Acids have been replaced by the D002-Acid Subcategory treatment standard (after 8/8/90). Likewise, metals and cyanides generally have been replaced by the corresponding characteristic waste treatment standards.
- . Table instructions: Read and continue to #4. Note: if there are more than 10 waste code/subcategories, continue on CWM form 2001-B, Supplemental Page.
- 4. USEPA hazardous waste codes: Put all USEPA hazardous waste codes that correctly apply to this waste in this section.
- 5. Subcategories: Next to each code identify the corresponding subcategory by either writing in the subcategory description or by checking "NONE". The waste codes that do have subcategories and the descriptions include:
 - D001: Ignitible Compressed Gas, Ignitible Liquid High TOC (> = 10%), Ignitible Liquid Low TOC (< 10%), Ignitible Reactive, or Oxidizer,
 - D002: Acid (pH <= 2.0), Alkaline (pH >= 12.5), or Other Corrosive (Corrosive to SAE 1020 steet at a rate >= 0.25 inch/year);
 - D003: Reactive Cyanide. Reactive Sulfide. Water Reactive (for nonwastewaters only). Explosive, or Other Reactive (see 261.23(a)(1));
 - D006: Cadmium Batteries, or NONE;
 - D008: Lead Acid Batteries, or NONE;
 - D009: Nonwastewaters: (1) Organic High Mercury (> = 260 ppm, with organics, not incinerated), (2) Inorganic High Mercury (> = 260 ppm), or (3) Low Mercury (< 260 ppm). Wastewaters: NONE;
 - F001, F002, F003, F004, F005: NonWassewaters: NONE. Wastewaters: Pharmaceutical. or NonPharmaceutical;
 - F025: Light Ends, or Filters/Filter Aids/Desiccants;
 - K006: Nonwastewaters: Anhydrous or Hydrated. Wastewaters: NONE
 - K046: Rescrive or NonRescrive;
 - K061: Nonwastewaters: Low Zinc (<15%) or High Zinc (>= 15%), Wastewaters: NONE;
 - K069: Nonwestewaters: Calcium Sulfate or NonCalcium Sulfate. Wastewaters: NONE;
 - K106 and U151: Nonwastewaters: (1) High Mercury > = 260 ppm, (2) Low Mercury < 260 ppm and RMERC residue. or (3) Low Mercury < 260 ppm not RMERC residues. Wastewaters: NONE
 - P065 and P092: Nonwastewaters: (1) Not Incinerator or roasting/retorting residue. (2) High Menury > = 260 ppm and it is incinerator or roasting/retorting residue. or (3) Low Mercury < 260 ppm and it is Incinerator residue, or (4) Low Mercury < 260 ppm and it is roasting/retorting residue. Wastewaters: NONE:
- 6. Applicable treatment standards: 6a. Identify the performance-based treatment standards that correspond to the waste on the line by putting an X in the applicable box(es). 6b. If the waste is subject to a specified technology requirement (268.42), enter the five-letter treatment code(s) from 268.42 Table 1 that corresponds to the treatment required and intended for the waste. Spent Solvent and California List waste standards are printed on the back of the form. If the waste code F039 (multi-source leachate) applies to the waste, then the treatment standards that correspond to F039 must be attached by the generator.
- 7. Management Under Land Disposal Restrictions: Using the six descriptions at the bottom of the page, write the letter (A. Bl. B2. B3, C. D), of the scription that corresponds to the status of the waste under 40 CFR Part 268.7. If the waste is subject to a variance, then after entering "C" in column 7, you must ite the date of expiration of the variance (effective date of the prohibition) next to it in column 7. Call the number below if you have any questions.

This form has been printed on self-duplicating paper. After you have completed this form, signed and dated it, remove the back page (labeled "GENERATOR: Remove this copy before shipment and retain in your files"). Keep the back page with your manifest records. Send all other copies (except these instructions) with the shipment. This form is NOT for Lab Packed wastes. Use form CWM-2002 "Lab Packed Hazardous Waste Land Disposal Notification and Certification Form".

RECYCLING/TSD HANDLING AGREEMENT and TRANSPORTATION/HANDLING AGREEMENT

Appropriate TSDF Identifier

YCLING/TSD HANDLING AGRE

(GENERATOR AND RECYCLING/TSD CONTRACTOR)



WHEREAS, Generator produces spent chemicals which may be considered to be "hazardous" or "toxic" within the meaning of applicable federal and state laws ("Spent Chemicals") and which therefore must be transported, stored, disposed of, recycled, treated or re-used ("Handird") in accordance with applicable laws pertaining to hazardous or toxic chemicals;

WHEREAS, Recycling/TSD Contractor owns or controls facilities which are capable of Handling Spent Chemicals in accordance with all applicable laws pertaining to such activities;

WHEREAS, the parties desire to enter into an arrangement for the Handling of Spent Chemicals, all on the terms and conditions hereinafter set forth:

NOW, THEREFORE, in consideration of the covenants and agreements contained herein, the undersigned agree to the following terms and conditions of this Recycling/TSD Handling Agreement as well as to the Standard Terms and Conditions Governing the Handling of Spent Chemicals ("Standard Terms and Conditions"), which are attached to the Generator copy of this Agreement and are incorporated herein by reference. All capitalized terms not otherwise defined herein shall have the meanings set forth in the Standard Terms and Conditions.

- SPENT CHEMICALS SHIPMENT. The completed Uniform Hazardous Waste Manifest or appropriate state manifest which is identified by the reference number appearing in a space below the signatures to this Agreement and which pertains to the Spent Chemicals Shipment Handled under this Agreement is hereby incorporated herein by reference. Such manifest describes certain Spent Chemicals which Generator hereby agrees to ship to Recycling/TSD Contractor and which Recycling/TSD Contractor agrees to Handle at the facility named in such manifest ("Designated Facility").
- COLLECTION, TRANSPORTATION, STORAGE AND DELIVERY. All Spent Chemicals Shipments shall be transported to Recycling/TSD Contractor by Van Waters & Rogers Inc., a Washington Corporation ("VW&R"), or an entity designated by VW&R to provide transportation and temporary storage services.
- PAYMENT. It is understood that VW&R shall pay Recycling/TSD Contractor for Handling the Spent Chemicals Shipment (or, where money is owed to Generator, VW&R shall pay Generator for the Spent Chemicals Shipment) according to the terms of a certain Master Spent Chemicals Handling Agreement between Recycling/TSD Contractor and VW&R. Recycling/TSD Contractor shall not look to Generator for payment for Handling the Spent Chemicals Shipment, except for certain extraordinary charges incurred in connection with Non-conforming Spent Chemicals as set forth in the Standard Terms and Conditions.
- INDEMNIFIED PARTY. As used in the Standard Terms and Conditions, the term "Indemnified Party" shall mean
- either Recycling/TSD Contractor or Generator, depending upon which party claims indemnification under this Agreement.

 5. GENERATOR INDEMNIFICATION. Generator shall detend, indemnify and hold harmless Recycling/TSD Contractor, its past, present and future officers, directors, employees, agents, insurers and successors (hereinafter in this Paragraph referred to collectively as "Recycling/TSD Contractor") from and against any and all loss which Recycling/TSD Contractor may sustain or incur, be responsible for or pay of the second of the contractor sible for or pay out as a result of: of:

 (a) Generator's breach of any representation, warranty, term or provision of this Agreement; or
- (b) The negligence of intentional misconduct of Generator, its employees, agents, representatives or subcontractors in the performance of this Agreement, provided that such indemnification shall not apply to the extent such liabilities result from Recycling/TSD Contractor's negligence or intentional misconduct or from a breach of this Agreement by Recycling/TSD Contractor.
- NAMES AND ADDRESSES OF PERSONS TO WHOM NOTICE IS TO BE GIVEN. The name of the person to whom notice is to be given on behalf of Generator appears on the Uniform Hazardous Waste Manifest in Item 16 or the appropriate state manifest. The name of the person to whom notice is to be given on behalf of Recycling/TSD Contractor appears on the Uniform Hazardous Waste Manifest in Item 20 or the appropriate state manifest. The addresses of the persons to whom notice is to be given appear on the Uniform Hazardous Waste Manifest under Item 3 (for Generator) and Item 9 (for Recycling/TSD Contractor) or the appropriate state manifest.

RECYCLING/TSD HANDLING AGREEMENT

(GENERATOR AND RECYCLING/TSD CONTRACTOR)

The undersigned hereby agree that, upon execution of this Recycling/TSD Handling Agreement, there is a binding contract between them according to the above terms and conditions, as of the day and year appearing below.

GENERATOR EPA ID#:	RECYCLING/TSD CONTRACTOR:
FACILITY:	PRINT NAME: TITLE:
PRINT NAME:TITLE;	SIGNATURE:
SIGNATURE: DATE:	RECYCLING/TSD CONTRACTOR SHIPMENT APPROVAL NUMBER
UNIFORM HAZARDOUS WASTE MANIFEST DOCUMENT NUMBER:	
STATE HAZARDOUS WASTE MANIFEST DOCUMENT NUMBER	ABC-00000-C
	ANDLING AGREEMENT

(GENERATOR AND VW&R)

The undersigned hereby acknowledge that Generator and Recycling/TSD Contractor have entered into the above Recycling/TSD Handling Agreement. The undersigned hereby agree that, upon execution of this Transportation/Handling Agreement, there is a binding contract between them according to the terms and conditions appearing on the reverse side hereof, effective on the same date as the Recycling/TSD Handling Agreement.

GENERATOR EPA ID#:	Van Waters & Rogers Inc. subsidary of Univar
FACILITY:	FACILITY:
PRINT NAME:TITLE:	PRINT NAME:
SIGNATURE: DATE:	SIGNATURE: DATE:

TRANSPORTATION/HANDLING AGREEMENT

(GENERATOR AND VW&R)

WHEREAS, Generator has made arrangements with a Recycling/TSD Contractor to transport, store, treat, dispose of, recycle, or re-use (which terms are hereinafter referred to as to "Handle") certain spent chemicals which it has generated and which may be considered to be "hazardous" or "toxic" within the meaning of applicable federal and state laws ("Spent Chemicals");

WHEREAS, Van Waters & Rogers Inc. ("VW&R") is in a position to transport and otherwise assist in the Handling of such Spent Chemicals;

NOW, THEREFORE, in consideration of the covenants and agreements contained herein, the aforementioned parties agree to the following terms and conditions as well as to the Standard Terms and Conditions Governing the Handling of Spent Chemicals ("Standard Terms and Conditions"), which are attached to the Generator Copy of this Agreement and are incorporated herein by reference. All capitalized terms not otherwise defined herein shall have the meanings set forth in the Standard Terms and Conditions.

- 1. DELIVERY. Prior to the execution of this Agreement, Generator has selected the Designated Facility set forth in the Uniform Hazardous Waste Manifest or appropriate state manifest for the Handling of the Spent Chemicals Shipment, which manifest is identified by the reference number appearing above the signatures to this Agreement. Generator has also completed all necessary arrangements for the Handling of such Spent Chemicals Shipment, including the execution of a Recycling/TSD Handling Agreement. VW&R shall deliver the Spent Chemicals Shipment to such Designated Facility.
- 2. CHARGES. The amount to be paid by Generator to VW&R for the services to be rendered hereunder is set forth on VW&R's Standard Schedule of Posted Prices for the Approved Spent Chemicals Stream to which the Spent Chemicals Shipment belongs, subject to all terms, conditions, and credit provisions contained therein. VW&R shall pay Recycling/TSD Contractor for all services in connection with the Handling of the Spent Chemicals Shipment, except for certain extraordinary charges incurred in connection with all or any portion of a Nonconforming Spent Chemicals Shipment, which Generator has agreed to pay.
- 3. WORK ON GENERATOR'S PREMISES. Generator agrees to provide VW&R, its employees, agents, and subcontractors, a safe working environment for any work, in performing this Transportation/Handling Agreement which must be undertaken on premises owned or controlled by Generator, except for hazardous environmental work conditions resulting from spills or other accidents which VW&R has caused.
- 4. INDEMNIFICATION. As used in the Standard Terms and Conditions, the term "Indemnified Party" shall mean either VW&R or Generator, depending upon which party claims indemnification under this Agreement. Generator and VW&R shall each defend, indemnify, and hold harmless the other, its past, present and future officers, directors, employees, agents, insurers and successors (hereinafter in this Paragraph referred to collectively as "VW&R" or "Generator") from and against any and all Loss which VW&R or Generator may sustain or incur, be responsible for or pay out as a result of the other's breach of any representation, warranty, term, or provision of this Agreement.
- 5. VW&R INDEMNIFICATION. VW&R shall defend, indemnify and hold harmless Generator from and against any and all Loss which Generator may sustain or incur, be responsible for, or pay out as a result of:
 - (a) VW&R's breach of any representation, warranty, term or provision of this Agreement;
- (b) any action or failure to act in connection with a Spent Chemicals Shipment which occurs during the period of time when such Shipment is in the possession of VW&R or VW&R's agents, employees or subcontractors regardless of whether VW&R or such persons are at fault with respect to such Loss, except where:
 - (i) such Loss arises from the action or the failure to act of Generator or any of its agents or employees,
 - (ii) a Nonconforming Spent Chemicals Shipment is being returned to Generator or disposed of in some alternate manner following the giving of a Rescission Notice, or
 - (iii) Generator is transporting the Spent Chemicals Shipment, either as a subcontractor to VW&R or otherwise;
- (c) the negligence or intentional misconduct of VW&R, its employees, agents, representatives or subcontractors in the performance of this Agreement, provided that such indemnification shall not apply to the extent such liabilities result from Recycling/TSD Contractor's negligence or intentional misconduct or from a breach of this Agreement by Recycling/TSD Contractor.
- 6. NAMES AND ADDRESSES OF PERSONS TO WHOM NOTICE IS TO BE GIVEN. The name of the person to whom notice is to be given on behalf of Generator appears on the Uniform Hazardous Waste Manifest in Item 16 or the appropriate state manifest and the address of such person appears on the Uniform Hazardous Waste Manifest in Item 3 or the appropriate state manifest. The name and address of the person to whom notice is to be given on behalf of VW&R is as follows:

Dwight Landry Vice President — ChemCare Van Waters & Rogers Inc. 801 Second Avenue, Suite 1600 Seattle, WA 98104 With a copy to:

Legal Services Department Van Waters & Rogers Inc. 801 Second Avenue, Suite 1600 Seattle, WA 98104

STANDARD TERMS AND CONDITIONS GOVERNING THE HANDLING OF SPENT CHEMICALS

These Standard Terms and Conditions are to be incorporated by reference into the Master Spent Chemicals Handling Agreement made between Van Waters & Rogers Inc., a Washington corporation ("VW&R") and Recycling/TSD Contractors, the Recycling/TSD Handling Agreement made between Generator and Recycling/TSD Contractor and the Transportation/Handling Agreement made between Generator and VW&R, all relating to the Handling of Spent Chemicals, and shall govern the Handling of such Spent Chemicals. When so incorporated, the particular agreement into which these Standard Terms and Conditions have been so incorporated shall hereinafter be referred to as the "Agreement." All capitalized terms not otherwise defined herein shall have the meanings set forth in the Agreement. Whenever the rights and obligations of a person not party to the Agreement are described herein, such description is intended for informational purposes only, in order to reflect the rights and obligations of such person under one or more other agreements which are related to the Agreement.

- 1. SPENT CHEMICALS STREAM INFORMATION. VW&R shall function as a conduit whereby Generator shall, from time to time, provide to Recycling/TSD Contractor samples, forms, and other information ("Spent Chemicals Information") pertaining to types, categories, or streams of Spent Chemicals Information") pertaining to types, categories, or streams of Spent Chemicals ("Spent Chemicals Stream") which Recycling/TSD Contractor may use in (a) determining whether such Spent Chemicals can be Handled by Recycling/TSD Contractor, (b) preparing any laboratory analysis of such Spent Chemicals or a report to the Generator thereon (the "Lab Report"), and (c) establishing the price(s) to be charged therefor. Spent Chemicals Information shall be periodically updated by Generator to meet regulatory requirements and the reasonable needs of Recycling/TSD Contractor. All Spent Chemicals Streams which Recycling/TSD Contractor has agreed to Handle pursuant to this Agreement are hereinafter referred to as "Approved Spent Chemicals Streams." Generator, and not VW&R, shall be responsible for the accuracy and completeness of all Spent Chemicals Information. Recycling/TSD Contractor shall look solely to Generator, not to VW&R, and shall in no way hold VW&R responsible, should any Spent Chemicals Information provided by a Generator (and in no manner commingled, mixed, changed or in any way altered by VW&R) prove to be other than true, accurate, and complete.
- 2. TRANSPORTATION SERVICES: ACCEPTANCE AND DELIVERY. In connection with each Spent Chemicals Shipment, VW&R shall execute with Generator a Transportation/Handling Agreement relating to such Shipment (Transportation/Handling Agreement to transport a shipment of Spent Chemicals ("Spent Chemicals Shipment"). WW&R shall collect such Spent Chemicals Shipment from Generator, transport it to Recycling/TSD Contractor (subject to such intermediate storage at VW&R or other facilities as shall, in VW&R's sole judgment, be necessary or desirable), and deliver such Spent Chemicals Shipment to Recycling/TSD Contractor in the same condition as received from Generators, reasonable wear and tear to containers excepted. Likewise, Generator and Recycling/TSD Contractor shall execute a Recycling/TSD Handling Agreement"). The two aforementioned agreements, in combination with a completed Uniform Hazardous Waste Manifest are hereinafter referred to as "Handling Documents". Spent Chemicals Shipment shall be delivered to Recycling/TSD Contractor accompanied by the appropriate counterpart copies of the Uniform Hazardous Waste Manifest and the executed Recycling/TSD Handling Agreement tw&R or Recycling/TSD Contractor (at the option of Recycling/TSD Contractor) shall assign a unique identification number for each Approved Spent Chemicals Stream ("Approved Spent Chemicals Stream Number") which number shall be supplied to the other parties and shall be included with the USDOT description (Item II) on each Uniform Hazardous Waste Manifest; and the chemicals Shipment of Spent Chemicals Shipment that any container is not suitable for shipment vW&R shall have no obligation to accept delivery of any shipment of Spent Chemicals unless (a) Generator executes all shipping manifests required by Recycling/TSD Contractor and federal and state authorities ("Uniform Hazardous Waste Manifest") and completed Handling Documents, (b) the Spent Chemicals Shipment has been properly prepared for shipment, including the affixation of required labels, and (c) t
- 3. TITLE TO SPENT CHEMICALS. Title, risk of loss, and all other incidents of ownership of Spent Chemicals Shipments shall be transferred from Generator and vested in Recycling/TSD Contractor at the point in time when the Spent Chemicals Shipment departs from the Generator's facility on VW&R's or VW&R's subcontractor's vehicle(s) and Generator has signed the Uniform Hazardous Waste Manifest, subject to revocation of acceptance and tide reversion, as provided in Paragraph 5 herein. Any marketable or usable material Recycling/TSD Contractor may recover from the Spent Chemicals Shipment shall be the sole property of Recycling/TSD Contractor.
- 4. RECYCLING/TSD CONTRACTOR'S HANDLING OF SPENT CHEMICALS. Recycling/TSD Contractor shall Handle each Spent Chemicals Shipment at the Available Facility agreed to by Recycling/TSD Contractor and designated by Generator on the Uniform Hazardous Waste Manifest prepared in connection with such Spent Chemicals Shipment (Posignated Facility) using the method described in the List of Available Facilities and in compliance with all local, state, and federal laws governing such activities. Recycling/TSD Contractor shall use due care and prudence in: (a) Handling all Spent Chemicals Shipments so as to prevent injury to persons, contamination, or threatened contamination of the environment, and any liability to VW&R or Generators, and (b) selecting any method or person to dispose of empty containers, still bottoms, and other residues, so as to prevent injury to persons, contamination, or threatened contamination of the environment, and any liability to VW&R or Generators When Recycling/TSD Contractor has become obligated to Handle a Conforming Spent Chemicals Shipment (which are not Nonconforming, as defined below), that obligation is absolute, subject only to the terms hereof, including the excuses of performance set forth in Paragraph 18 of these Standard Terms and Conditions. Accordingly, should Recycling/TSD Contractor not be able to perform its obligations to Handle a Conforming Spent Chemicals Shipment pursuant to a Recycling/TSD Handling Agreement, Recycling/TSD Contractor shall immediately notify VW&R and shall include with such notification a proposal to Generator of one or more alternate facilities or means of Handling such Conforming Spent Chemicals Shipment. VW&R shall immediately thereupon transmit such notification to Generator. Generator shall have ten (10) days following notification by VW&R in which to either accept such alternate facility or means or to

designate another facility or means for further Handling. Any reasonable incremental cost of such further Handling (over and above the original contract price) and any other reasonable costs incidental thereto, including, without limitation, additional transportation costs, shall be Recycling/TSD Contractor's sole obligation.

5. NONCONFORMING SPENT CHEMICALS.

(a) Definition of Nonconformance. A Spent Chemicals Shipment shall be considered nonconforming ("Nonconforming"), for the purposes of this Agreement, if:

(i) Nonconformity with Spent Chemicals Information. The Spent Chemicals contained therein do not conform to the Spent Chemicals Information supplied by Generator with respect to an Approved Spent Chemicals Stream or to the Lab Report or the Spent Chemicals contain constituents or components not listed in the Spent Chemicals Information which increase the nature or extent of the hazard, risk or cost undertaken by Recycling/TSD Contractor; or

by Recycling/1DD Contractor; or

(ii) Manifest Information. The Uniform Hazardous Waste Manifest signed by the Generator does not conform to the Spent Chemicals Information, does not conform to all requirements of law, or does not otherwise contain complete and accurate information relating to such Spent Chemicals Spingers.

Spent Chemicals Shipment.

(iii) Containers. The containers for the Spent Chemicals Shipment are incompatible with the Spent Chemicals, are damaged, leaking, improperly closed or improperly prepared for shipment, pose an undue hazard to the health or safety of personnel or the facility in connection with the Handling or transportation of the Spent Chemicals, or do not conform to requirements of state, federal or other pertinent law.

- requirements of state, federal or other pertinent law.

 (b) Notification of Nonconformance. At any point in the Handling process, but only for 30 days following Recycling/TSD Contractor's acceptance of a Spent Chemicals Shipment at its or its subsidiary's facility (the time of acceptance being the time of Recycling/TSD Contractor's execution at its or its subsidiary's facility of the Uniform Hazardous Waste Manifest relating to such Shipment), both VW&R and the Recycling/TSD Contractor shall have an independent right to determine when a Spent Chemicals Shipment is Nonconforming, each in the exercise of its sole discretion. Whenever it is determined that all or a portion of a Spent Chemicals Shipment is Nonconforming the party which makes such determination shall immediately notify the other and VW&R shall thereupon immediately notify Generator. At the time of such notification and at any time thereafter until such Nonconformance has been cured, VW&R may, and at Recycling/TSD Contractor's request shall, by notice to Generator ("Rescission Notice"), rescind any prior acceptance by VW&R or Recycling/TSD Contractor of delivery of any Spent Chemicals Shipment.
- (c) Reversion of Title to Nonconforming Spent Chemicals. Upon the giving of a Rescission Notice, title, risk of loss, and all other incidents of ownership shall revert to Generator as of the point in time such title, risk of loss, and other incidents of ownership originally vested in Recycling/TSD Contractor as if title had never transferred to Recycling/TSD Contractor in the first instance.
- (d) Return or Alternate Disposal of Nonconforming Spent Chemicals. Following the giving of a Rescission Notice, VW&R or the Recycling/TSD Contractor (whichever has possession) shall properly store, prepare for lawful transportation, and return to Generator (through VW&R) such Nonconforming Spent Chemicals within a reasonable time, not to exceed ten (10) days after the giving of the Rescission Notice, unless within such time the parties agree to some alternate lawful manner of disposition. The parties agreement to an alternative manner of disposition or acceptance of a Nonconforming Spent Chemicals Shipment shall not be deemed a waiver of the right of VW&R and/or the Recycling/TSD Contractor to reject any other Nonconforming Spent Chemicals Shipment. Generator shall accept possession of any rejected Nonconforming Spent Chemicals Shipment returned to Generator and shall sign all required shipping papers and the Uniform Hazardous Waste Manifest(s) which accompany the Nonconforming Spent Chemicals Shipment. If Generator refuses to Handle such Nonconforming Spent Chemicals Shipment, including without limitation shipment elsewhere for Handling, then VW&R or Recycling/TSD Contractor (whichever party has possession) shall thereupon be authorized to act as Generator's agent to take all steps, including execution of documents, deemed by VW&R in its sole judgment to be appropriate or necessary to Handle such Spent Chemicals Shipment Generator shall pay Recycling/TSD Contractor and/or VW&R all of their respective reasonable expenses and charges associated with handling, loading, preparing, transporting, storing, caring for, sampling, analyzing, or otherwise Handling Nonconforming Spent Chemicals under this Agreement so long as VW&R notifies Generator of the Nonconformity.
- 6. BILLING AND PAYMENT. VW&R, Generator, and Recycling/TSD Contractor shall submit invoices for charges and fees which any party may owe to the others under the Agreement. Payment shall be made within thirty (30) days following receipt of a billing invoice. Any sums not paid when due shall bear interest at the rate of 18% per annum, or the maximum amount permitted by law, whichever is lower.
- 7. GENERATOR'S REPRESENTATIONS AND WARRANTIES, Generator hereby represents and warrants as follows:
- (a) All Spent Chemicals Information delivered to Recycling/TSD Contractor pertaining to the Spent Chemicals Shipment or the Spent Chemicals Stream to which it belongs and all information appearing on the Uniform Hazardous Waste Manifest or appropriate state manifest are complete, true, and correct:
- (b) The description and specifications contained in the Spent Chemicals Information delivered to Recycling/TSD Contractor fairly advises Recycling/TSD Contractor of the hazards and risks known by Generator to be incident to the Handling of the Spent Chemicals;
- (c) The Spent Chemicals Shipment conforms to the Spent Chemicals Information, the Lab Report, the Approved Spent Chemicals Stream Number, and the Uniform Hazardous Waste Manifest or appropriate state manifest;

- (d) All containers in the Spent Chemicals Shipment are marked, labeled, and are otherwise in conformance with governmental laws, regulations, and orders:
 - (c) Generator holds clear title to the Spent Chemicals Shipment:
- (f) Generator is under no legal restraint or order which would prohibit transfer of title of the Spent Chemicals Shipment to Recycling/TSD Contract-
- (g) Generator has filed or will file with the appropriate governmental agency any preliminary notification required under applicable law for shipment of the Spent Chemicals Shipment.
- VW&R'S AND RECYCLING/TSD CONTRACTOR'S RESPECTIVE REP-RESENTATIONS AND WARRANTIES. The parties herein make the following representations and warranties-
- (a) Recycling/TSD Contractor hereby represents and warrants as follows:
- (i) All information supplied by Recycling/TSD Contractor, its employees, agents, directors, officers, and representatives to VW&R concerning the Available Facilities, including all information set forth on the List of Available Facilities, any information furnished or to be furnished in connection with Recycling/TSD Contractor's obligations under the Agreement is (or, in the case of information furnished hereafter by Recycling/TSD Contractor, shall be) true, complete, and accurate, and there has been and shall be no material omission or misrepresentation in
- (ii) Recycling/TSD Contractor has obtained all necessary permits and licenses required in connection with its performance under the Agreement
- (b) VW&R hereby represents and warrants that all information supplied by VW&R, its employees, agents, directors, officers, and representatives to Recycling/TSD Contractor in connection with VW&R's obligations under the Agreement is (or, in the case of information furnished hereafter by VW&R, shall be) true, complete, and accurate, and there has been and shall be no material omission or misrepresentation in connection therewith

Each and every representation and warranty made by either party in connection with the Handling of Spent Chemicals Shipments pursuant to the Agreement shall survive completion of performance under the Agreement,

- INDEMNIFICATION PROVISIONS: DEFINITIONS. The following terms used herein and in the Agreement have the meanings set forth below:

 (a) "CERCLA" means the Federal Comprehensive Environmental Re-
- Compensation and Liability Act of 1980, 42 U.S.C. § 9601 et seq., and all regulations thereunder, both as amended from time to time.

 (b) "RCRA" means the Resource Conservation and Recovery Act, 42
- (b) "RCRA" means the Resource Conservation and Records U.S.C. § 6901 et seq., and all regulations thereunder, both as amended from
- (c) "Other Enactment" means any federal, state, or local statute, ordinance, order, rule, or regulation of any type other than CERCLA and RCRA, including without limitation those relating to the Handling of Spent Chemicals, the contamination of the environment, any removal of such contamination or remediation thereof, or endangerment of human health.

 (d) "Loss" means any and all of the following, whether the result of
- any action of any governmental agency or any third party: liabilities, penalties, forfeitures, suits, losses, damages, fines, expenses, debts, obligations, claims, including, without limitation, fines, liabilities, or losses arising out of CERCLA, RCR., or any and all Other Enactments, costs (including costs of investigation, defense, settlement and attorneys' and other professional fees whether or not litigation is instituted), costs and capital expenditures required for compilings with CERCLA, PCRA as equipment and the contractions with CERCLA (CRA). whether of not nightion is instituted, costs and capital expenditures required for compliance with CERCLA, RCRA, or any and all Other Enactments, any losses related to death, bodily injury, property damage or destruction, damage to the environment, losses which any Indemnified Party may sustain as a result of any investigation, removal, remediation, cleanup, or decontamination arising out of any contamination of or discharge or threatened discharge into the environment, whether liquidated or unliquidated, fixed or contingent, known or unknown, but in no event shall include damages for loss of use,
- income or profits.

 (e) "Indemnified Party" and "Indemnified Parties" shall mean the party or parties defined as the "Indemnified Party" or "Indemnified Parties" in the Agreement and shall include the respective past, present, and future officers. directors, employees, agents, insurers, and successors of such party or parties.
- 10. RECYCLING/TSD CONTRACTOR INDEMNIFICATION, Recycling/TSD Contractor shall defend, indemnify, and hold harmless each and every Indemnified Party from and against any and all Loss which such Indemnified Party may sustain or incur, be responsible for or pay out (except to the extent that such Indemnified Party is itself at fault with respect to such Loss) as a result of:

 (a) Recycling/TSD Contractor's breach of any representation, warranty,
- term, or provision of the Agreement, or
 (b) Recycling/TSD Contractor's or any other person's Handling of
- Spent Chemicals, containers, and residues once such Spent Chemicals have been accepted by Recycling/TSD Contractor at its facilities (as provided in Paragraph 5(b) of these Standard Terms and Conditions), regardless of whether Recycling/TSD Contractor is without fault with respect to such Loss.
- (c) The negligence or intentional misconduct of Recycling/TSD Contractor, its employees, agents, representatives or subcontractors in the performance of this Agreement, provided that such indemnification shall not apply to the extent such liabilities result from Indemnified Party's negligence or intentional misconduct or from a breach of this Agreement by Indemnified
- Party, VW&R's indemnification of Recycling/TSD Contractor is provided by
- 11. INDEPENDENT CONTRACTORS. Each party is and shall be an independent contractor in the Handling of Spent Chemicals under the Agreement. No party or anyone employed by any party shall be the agent, representative, employee or servant of any other party in the Handling of

Spent Chemicals under the Agreement except as specifically provided to the

- NOTICE AND COOPERATION. The following procedures shall apply to indemnification under the Agreement:
- (a) In the event that any Indemnified Party shall have a claim made or threatened against it as to which the Indemnified Party believes it is entitled to indemnification under the Agreement, it shall promptly notify the party against whom indemnification is sought and VW&R. The notice shall specify the party from which indemnification is sought, and provide available material details of the claim, with copies of any relevant documents. Failure to notify the above party(ies) of any claim shall relieve such party of its obligation to indemnify any Loss related to that particular claim.

 (b) Within ten (10) days after receipt of a notice asserting a right to indemnification, the party from which indemnification is sought shall notify all other Indemnified Parties whether it undertakes the defense and disposition of a claim may reserve its right to undertakes the defense and disposition of a claim may reserve its right to decline responsibility if facts subsequently come to its attention which indicate that it is not obligated to indemnify.

 (c) A party which undertakes the defense and disposition of a claim shall have control of the defense and disposition, so along as such party's (a) In the event that any Indemnified Party shall have a claim made
- shall have control of the defense and disposition, so along as such party's ability to perform its obligations under this Agreement relating to indemnifica-tion shall not suffer any material adverse change. The Indemnified Parties shall cooperate in the defense as reasonably requested by, and at the expense of, the undertaking party. The other Indemnified Parties may further participate in the defense at their own expense, but shall not have control of the
- (d) If a party declines responsibility for a tendered claim and the parties cannot resolve the dispute within thirty (30) days, the question of responsibility to indemnify shall be submitted to arbitration under Paragraph 19 of these Standard Terms and Conditions. Pending such arbitration, the Indemnified Party against which the claim was asserted shall act to protect the interests of the parties with respect to the claim, subject to reimbursement of all costs and expenses by any party which is thereafter determined to have responsibility for conducting such defense.
- NONEXCLUSIVITY. The parties acknowledge that the arrangements contemplated under the Agreement are nonexclusive and that any Generator may, in its sole discretion, select persons and facilities other than Recycling/TSD Contractor to Handle Spent Chemicals, including but not limited to persons who are affiliates of VW&R, and that VW&R may utilize the services of persons and facilities other than Recycling/TSD Contractor to Handle Spent Chemicals, including but not limited to VW&R's own affiliates.
- 14. ENTIRE AGREEMENT. The Agreement represents the entire understanding between the parties hereto relating to the matters addressed herein. The Agreement supersedes any and all prior agreements, whether written or oral, which may exist between the parties.
- AMENDMENT. The Agreement may be amended from time to time only by an express instrument in writing signed by the parties.
- 16. SAVINGS CLAUSE. If any one or more of the provisions contained in the Agreement shall, for any reason, be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions of the Agreement and the Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.
- 17. SCOPE AND SURVIVAL. The obligations of the parties to indemnify under the Agreement shall survive the expiration or termination of this Agreement
- 18. EXCUSE OF PERFORMANCE. The performance of this Agreement, except for the payment of money for services already rendered, may be suspended by any party in the event performance is prevented by causes beyond the reasonable control of such party. Such causes shall include, but not be limited to, acts of God, acts of war, riot, fire, explosion, accident, flood or sabotage, governmental laws, regulations, requirements, orders, lockouts, or strikes.
- MANDATORY ARBITRATION, Any controversy or claim arising out of 19. MANDAIOHY ARBITHATION, Any controversy or claim arising out of or relating to the Agreement or breach of the Agreement shall be settled by arbitration in accordance with the Commercial Arbitration Rules of the American Arbitration Association. The award resulting from the arbitration shall be final and binding upon the parties and judgment on the award rendered may be entered in any court having jurisdiction. The place of arbitration shall be mutually agreed upon by the parties to the arbitration or, if the parties are unable to agree, St. Louis, Missouri.
- ATTORNEYS' FEES AND EXPENSES. If any action or proceeding 20. All UNINEYS FEES AND EAFENSES. In any action of proceeding shall be commenced before any court or governmental agency to enforce the terms of the Agreement, or if any arbitration shall take place pursuant to Paragraph 19 of these Standard Terms and Conditions, then the prevailing party shall be entitled to recover from the other party the reasonable attorneys' fees, costs, and expenses incurred by such prevailing party in connection with such action, proceeding, or arbitration.
- NOTICES. Except as otherwise provided, any notice to be given under the Agreement shall be in writing and shall become effective when delivered to a party (with appropriate copies to other persons as indicated in the Agreement at the address of the party as indicated in the Agreement or at such other address as shall be designated by such party in a written notice to the other party(ies). In the cases of: (a) notice required to be given of Non-conforming Spent Chemicals Shipment or (b) a Rescission Notice, notice is deemed to have been given at the time the notifying party informs the party to be notified by telephone, provided that written confirmation is mailed to the party to be notified, postage prepaid, within seventy-two (72) hours there-

QUALITY ASSURANCE PROGRAM

QUALITY ASSURANCE / QUALITY CONTROL PROGRAM

1.0 OBJECTIVES

QA goals for accuracy, precision, and completeness must be defined. Specific numerical QA objectives for accuracy, precision, and completeness of sample preservation and analytical procedures to be used in the laboratory have been developed. These methods and goals are based upon U.S. EPA guidelines and best judgement.

1.1 ACCURACY

The QA accuracy goal for quantitative analysis is expressed in terms of recovery of surrogate compounds and recovery of spiked analytes. Recovery of a surrogate compound added to a sample will be defined as follows:

Recovery of a spiked analyte is defined as follows:

The QA accuracy goal for quantitative analysis is generally is 80% for the lower limit and 120% for the upper limit. In all cases the laboratory will strive to achieve the goals for accuracy listed in Table 1.

The materials used for spiking must be verified by the use of reference materials. The same accuracy goals are set for results obtained in both reference samples and performance evaluation samples.

1.2 PRECISION

The goal for precision where replicate analyses have been performed are as follows:

Analysis of surrogates or analyte spikes: The standard analysis must be within the limits specified in Table 1.

Analysis of replicates: The results of quantitative analyses of replicates must be within the limits specified in Table 1.

1.3 COMPLETENESS

Completeness is the degree to which the number of activities initiated are finished. The goal for completeness is 100%.

1.4 CONTROL LIMITS

Whenever the analytical procedure is "out of control", the problem must be identified, corrected, and the analysis repeated. Being "out of control" is defined as follows:

Whenever the method blank result exceeds the detection limit required for the parameter.

Whenever one lab replicate varies by more than that specified in Table 1.

Whenever matrix spikes, reference standards, or other laboratory fortified sample results are outside the range specified in Table 1.

Whenever surrogate recoveries are outside the range specified in Table 1, for sample within the quantification limits without dilution.

Exceptions to the control limits may be expected when the limits imposed are not realistically achievable according to the U.S. EPA methods used.

2.0 SAMPLING PROCEDURES

Sampling procedures are those described in "Test Methods for Evaluating Solid Waste" (U.S. EPA Publication SW-846). Sample preservation methods in accordance with Table 2. shall be followed. Sample size and the type of container used to hold the sample also are specified in Table 2. Sample pre-analytical holding times are specified in Table 3.

3.0 SAMPLE CUSTODY

Samples will remain in the custody of the sampler until the laboratory receives delivery of the sample and the transfer of the sample is logged on the "chain of custody" form accompanying the sample. The chain of custody form will be retained for a period of five years.

A chain of custody technician will ensure that all samples are properly logged and maintained (stored under proper conditions) while in the laboratory awaiting analysis. The laboratory is to be maintained as a secure, restricted area.

Laboratory personnel are instructed of the importance of "chain of custody" and are prepared to offer testimony in the event sample integrity is questioned.

4.0 CALIBRATION PROCEDURES

Calibration procedures and the frequency of calibration is specified for analytical tests in SW-846. A summary of calibration procedures is shown in Table 4.

4.1 INORGANICS

Initial calibration curves must show a calibration coefficient between 0.995 and 1.000. Initial calibration verification and continuing calibration must show 90 to 110% recovery of all compounds.

4.2 ORGANICS

Initial calibration response values must have a percent relative standard deviation less 30% for EPA calibration check compounds. Check standards and continuing calibration must give response values for calibration check compounds which have a percent difference of no more than 25% from initial calibration.

5.0 ANALYTICAL PROCEDURES

The analytical methods specified in SW-846 for samples of hazardous wastes are listed in Table 5. Table 6 lists the constituents that are detectable using GC/MS methods for volatile organics. Table 7 lists those methods for semi-volatile organics. A GC/MS method will be the primary method used to analyze for volatile and semi-volatile organic constituents.

All analyses will be performed using analytical methods in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (U.S. EPA Publication SW-846), Third Edition. Specific analytical procedures and detection limits are listed in Table 8.

6.0 QUALITY CONTROL PROCEDURES

For the procedures described in SW-846, mandatory quality control procedures are given. The procedures specify the number of laboratory blanks, the number of calibration standards, and the frequency that the calibration standards and laboratory duplicates must be run. Quality control procedures are summarized in Table 9.

7.0 PERFORMANCE AND SYSTEM AUDITS

Performance audits will consist of evaluations of all data to ensure that all required QA/QC checks are being completed. Performance audits and data reviews will be conducted by the laboratory's data control technician. The data control technician will follow-up immediately if discrepancies are found. A monthly report also will be filed with the laboratory director.

System audits will be performed monthly by the laboratory director and staff to assess the overall quality of the analytical work of the laboratory. Audits will address the following elements:

Sample handling;

Sample analysis;

Records control;

Equipment maintenance;

Training;

Proficiency and Workload;

Modernization needs.

Unannounced performance evaluations will be conducted to assess the ability of the laboratory to analyze unknowns.

8.0 METHODS FOR ASSESSING DATA ACCURACY AND PRECISION

8.1 CALCULATION OF THE MEAN AND ESTIMATES OF PRECISION

The mean of a series of replicate measurements is calculated:

$$\bar{C} = \frac{1}{--} \quad \sum_{i=1}^{N} \quad \bar{C}i$$

where:

n = number of replicates;

 \bar{C} = mean

Ci = measurement of concentration (mg/l or mg/kg).

The estimate of precision of duplicate measurements is expressed as the relative percent difference (RPD), and is calculated:

$$RPD = \begin{array}{c} C2 - C1 \\ ---- \times 100 \\ C \end{array}$$

The estimate of precision of a series of replicate measurements is expressed as the relative standard deviation (RSD) and is calculated:

$$SD = \pm \sqrt{\frac{\sum_{i=1}^{n} (Ci - C)^{2}}{\sum_{i=1}^{n} (Ci - C)}}$$

and

$$RSD = \frac{SD}{C} \times 100$$

8.2 ASSESSMENT OF ACCURACY

Accuracy is evaluated by comparing the mean recovery of surrogate samples or spiked samples against the standards.

The recovery of a surrogate sample is calculated:

The recovery of a spiked sample is calculated:

where:

Cs = measured concentration of surrogate sample (mg/l or mg/kg)

Vs or Ws = total volume or weight of sample to which surrogate was added

Qs = quantity of surrogate added to sample.

Table 1
Precision Goals for RCRA Waste and Ground Water Analysis

•	•			
Technique or Parameter	Matrix	Duplicate Control Limits	MS/MSD Control Limits	Surrogate Spike Control Limits
Characteristics Ignitability	Liq.,Sludges	20% RPD	NA .	NA
Corrosivity	Liq.,Sludges	20% RPD	NA	NA
EP Toxicity	All types	. 35% RPD	NA	NA
Composition		•		
GC/MS - VOA	Liq.,Solids	35% RPD	20% RPD -	80-120%
GC/MS - VOA	Waters .	25% RPD	15% RPD	80-120%
GC/MS - Acids	Liq.,Solids	35% RPD	50% RPD	10-130%
GC/MS - Acids	Waters	25% RPD	50% RPD	10-130%
GC/MS - B/N	Liq.,Solids	35% RPD	50% RPD	40-150%
GC/MS - B/N	Waters ·	25% RPD	40% RPD	40-120%
GC - Pest/PCB	Liq.,Solids	35% RPD	50% RPD -	20-150%*
GC - Pest/PCB	Waters	25% RPD :	30% RPD	24-154%*
ICAP	Liq.,Solids	35% RPD	75-125% .	NA
ICAP	Waters	20% RPD	75-125%	na
AA	Liq.,Solids	35% RPD	75-125%	NA NA
AA	Waters	20% RPD	75-125%	NA
Cyanide	Liq.,Solids	20% RPD	80-120%	АИ
Cyanide	Waters	20% RPD .	80-120%	NA
Sulfides .	Liq.,Solids	50% RPD	70-130%	- NA
Sulfides	Waters	30% RPD	70-130%	NA ·
pH(aq. phase)	Liq.,Solids	10% RPD	NA	NA
- PH	Waters	10% RPD	NA	NA

^{*} Advisory limits only NA = Not Applicable

MS/MSD = Matrix Spike/Matrix Spike Duplicate

TABLE 2 .
• SAMPLE PRESERVATION METHODS

-	the state of the s	
Parameter	Size and Type of Container	Preservative*
Ignitability, BTU	500 ml glass	Iced or refrigerated
Corrosivity	1. liter plastic	Iced or refrigerated
Reactivity	l liter plastic	Iced or refrigerated
EP Toxicity	l liter glass	Iced or refrigerated
Metals, except Hexavalent Chromium	l liter plastic	5 ml HNO ₃ /liter and iced (pH 2)
Hexavalent Chromium	l liter plastic ·	Iced or refrigerated
Volatile Organics	2-40 ml glass vials	0.1 ml HCl, Iced or refrigerated
Semi-Volatile . Organics (BNAs,PCBs,Pest	1 liter glass (4)	<pre>lced or refrigerated</pre>
Cyanide	l liter plastic	1 ml [:] 50% NaOH/liter and iced
TOX, TOC	l liter glass	Iced or refrigerated 0.1 ml H ₂ SO ₄
Sulfides	l liter plastic	2 ml (2N) Zn(C ₂ H ₃ O ₂)2 per liter and 1 ml 50% NaOH per liter and iced
pH,Cl ⁻ ,SO ₄ ,Diss.Solids, T. Solids,S.Cond, Nitra Alkalinity	2-1 liter plastic te,	Iced or refrigerated to 4°C.
Phenois	l liter glass	2 ml 50% H ₂ SO ₄ /liter and iced

^{*}Preservatives used only if sample is aqueous. Non-aqueous samples are placed in a glass bottle and iced. If the sample is strongly alkaline or acidic, a preservative should not be used. Multiple containers required for water samples are indicated in parentheses. Additional containers (double) will be required for organic Matrix Spike/Matrix Spike Duplicates.

TABLE 3 .

SAMPLE PRE-ANALYTICAL HOLDING TIMES*

Parameter	Holding Time
Ignitability, BTU	30 days
Corrosivity	- 30 days
Reactivity	7 days
EP Toxicity	30 days
Metals, except Hexavalent Chromium and Mercury	6 months
Volatile Organics	14 days
Semi-Volatile Organics (BNA's, PCBs, Pesticides)	7 days until extraction and 40 days after extraction
Cyanide	14 days
TOX	7 days
Sulfides	7 days
Alkalinity	14 days
pH	Analyze immediately
Chloride, Sulfate, Spec. Cond. Total Solids	28 days
Nitrate, T.Dissolved Solids	48 hours
Phenols, TOC	28 days
Mercury	13 days
Hexavalent Chromium	24 hours

TABLE 4

CALIBRATION PROCEDURES AND FREQUENCY

Parameter	Initial	Continuing	Comments
Metals	3 point and blank w/every analysis lot of furnace and flame. ICAP calibrated according to instrument manufacturers specs	From different stock at begin- ing and every 10 samples	MSA for EP TOX or matrices with interferences
Cyanide and Phenols	Blank and 5 . standards	Blank and 2 standards	No more than 20 runs on each calibration
Sulfide	Blank and 3 standards	Check standard every 15 samples	40 m • • • • • • • • • • • • • • • • • • •
N-N0 ₃	Blank and 5 standards	Blank and 2 standards	43) 642
тос	Blank and 3 standards	Check standard every 15 samples	qui vag
TOX	Blank and 3 standards	Check standard every 15 samples	40 40
VOA	5 point	Daily or every 12 hours	QC check standard when use new stocks of standards
BNAs	5 point	Every 12 hours unless initial performed	QC check standard as above
Pesticides/ PCBs	3 point	Every 12 hours	QC check standard as above

TABLE 5

METHODS FOR RCRA ANALYSIS

Parameter	SW-846 Method <u>Number</u>
Ignitability Corrosivity Reactivity EP Toxicity	1010 9040 * 1310
Antimony Arsenic Barium Cadmium Chromium Chromium, Hexavalent Lead Mercury Nickel Selenium Silver Potassium Sodium Manganese Magnesium Iron Calcium	7040, 6010 7060 7080, 6010 7130, 7131 7190,7191,6010 7195,7196,7197 7420,7421,6010 7470,7471 7520,6010 7740 7760,6010 7760,6010 7770,6010 7450,6010 7450,6010 7450,6010 7450,6010 7380,6010 7140,6010
Halogenated Volatile Organics Nonhalogenated Volatile Organics	8010 8015
Aromatic Volatile Organics Acrolein, Acrylonitrile, Acetonitrile Phenols Phthalate Esters Organochlorine Pesticides and PCBs Nitroaromatics and Cyclic Ketones Polynuclear Aromatic Hydrocarbons Chlorinated Hydrocarbons Organophosphorus Pesticides Chlorinated Herbicides	8020 8030 8040 8060 8080 8090 8100 8120 8140 8150
Volatile Organics (GC/MS) (See Table 1-2 for listing)	8240
Semi Volatile Organics (GC/MS) (See Table 1-3 for listing)	8270

	_		
	Total and Amenable Cyanide	9010 9020	9010 9020
	TOX Sulfides pH Electrometric Measurement pH Paper Method	9020 9030 9040 9041	9020 9030 9040 9041
	Soil pH Specific Conductance	9045 9050 9035,9036,9038	9045 9050 9035,9036,9038
	TOC Phenolics	9060 9065,9066 9250,9251,9252	9060 9065,9066 9250,9251,9 <u>2</u> 52
		range	•
•	Sample Preparation - Metals Acid Digestion Procedure for Flame Atomic Absorption Spectroscopy or Inductively Coupled Spectroscopy	3005	3005
	Acid Digestion Procedure for Flame Atomic Absorption Spectroscopy or Inductively Coupled Spectroscopy	3010	3010
	Acid Digestion Procedure for Furnace Atomic Absorption Spectroscopy	3020	3020
	Dissolution Procedures for Oils, Grease or Waxes	es 3040	3040
	Acid Digestion of Sediment, Sludges, and Soils	3050	: 3050
	Fusion Procedure for Solid Samples		· 30 65
-	Sample Extractions and Preparation-Orga	anics	
	Separatory Funnel Liquid-Liquid Extract	tion 3510	3510
•	Continuous Liquid-Liquid Extraction	3520	3520
•	Soxhlet Extraction	3540	3540
	Sonication Extraction	3550	3550
	Waste Dilution	3580	3580
	Purge and Trap	50 30	503 0 -
÷	Analysis of Cartridges from Volatile Organic Sampling Train (VOST)	5040	5040

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TABLE 5 (Cont'd)

Parameter	SW-846 Method Number
(a) and (c)	1(4110.0)
Cleanup - Organics	
Alumina Column Cleanup	3610
Alumina Column Cleanup And Separation of Petroleum Wastes	3611
Florisil Column Cleanup	3620
Silica Gel Cleanup	3630
Gel-Permeation Cleanup .	3640
Acid-Base Partition Cleanup .	3650
Sulfur Cleanup	3660
Miscellaneous Screening Methods - Organics	
Headspace	3810
Hexadecane Extraction And Screening Of Purgeable Organics	3820

TABLE 6

COMPOUNDS DETECTED USING SW-846 METHOD 8240 FOR VOLATILE ORGANICS

n-butanol

Ethyl Acetate

Acetone Acrolein Acrylonitrile Benzene Carbon Disulfide Carbon Tetrachloride Chlorobenzene 1,2-dichloroethane (total) 1,1,1-trichloroethane 1,1-dichloroethane 1,1,2-trichloroethane Chloroethane Chloroform 1,1,2,2-tetrachloroethane 2-chloroethylvinylether 1,1-dichloroethene 1,2-dichloroethene (total) 1,2-dichloropropane 4-methyl-2-pentanone Cis-1,3-dichloropropene Trans-1,3-dichloropropene Ethylbenzene Methylene Chloride Chloromethane Bromomethane Bromoform Bromodich loromethane Fluorotrichloromethane Dichlorodifluoromethane Ch lorod ibromomethane 2-Hexanone (MBK) Para Idenyde Methylethylketone (2-butanone) Methylisobutylketone (MIBK) Styrene Tetrahydrofuran . Tetrachloroethylene Toluene Trich loroethy lene Vinyl acetate Vinyl chloride .Xylenes (total) Ethyl Ether Isobutanol Cyclohexanone 1,1,2-trichloro-1,2,2-trifluoroethane

TABLE 7 :

COMPOUNDS DETECTED USING SW-846 METHOD 8270 FOR SEMI-VOLATILE ORGANICS

Base/Neutral Extractables

1-3 Dichlorobenzene 1-4 Dichlorobenzene Hexach loroethane Bis(2-chloroethyl) ether 1,2-Dichlorobenzene Bis(2-chloroisopropyl) ether N-Nitrosodi-n-Propylamine Nitrobenzene Hexach lorobutadiene 1,2,4-Trichlorobenzene Isophorone Naphtha lene Bis(2-chloroethoxy) methane Hexachlorocyclopentadiene 2-Chloronaphthalene Acenaph thy lene Acenaph thene Dimethyl phthalate 2,6-Dinitrotoluene Fluorene 4-Chlorophenyl phenyl ether 2,4-Dinitrotoluene Diethylphthalate N-Nitrosodiphenylamine Hexachlorobenzene 4-Bromophenyl phenyl ether Phenanthrene Anthracene Dibutyl phthalate Fluoranthene Pyrene Benzidine

Acid Extractables

2-Chlorophenol 2-Nitrophenol Phenol 2,4-Dimethylphenol 2,4-Dichlorophenol .2,4,5-Trichlorophenol 4-Chloro-3-methylphenol 2,4-Dinitrophenol 4-Chloro-3-methylphenol 2,4-Dinitrophenol 2-Nethyl-4,6-dinitrophenol Pentach lorophenol 4-Nitrophenol Benzoic acid 2-Hethylphenol 4-Methylphenol 2,4,6-Trichlorophenol

Base/Neutral Extractables

Butyl benzyl phthalate Bis(2-ethylhexyl) phthalate Chrysene Benzo(a)anthracene 3,3'-Dichlorobenzidine Di-n-octyl phthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-c,d)pyrene Dibenzo(a,h) anthracene Benzo(ghi)perylene N-Nitrosodimethyl amine 1,2-Diphenylhydrazine Aniline Benzyl alcohol 4-Chloroaniline Dibenzofuran 2-Methylnapthalene 2-Nitroaniline 3-Nitroaniline 4-Nitroaniline Carbazole Pyridine Dinitrobenzene(s) 2-Picoline Tetrach lorobenzene(s) Toluenediamine

TABLE 8
ANALYTICAL COMPOUNDS AND THEIR DETECTION LIMITS

Compound	ÇAS#	ug/l <u>GW/SW</u>	mg/kg Soil/Sed/Waste
Aluminum*	7429-90-5	80	40
Antimony**	7440-36-0	2	2.4
Arsenic**	10102-53-1	2	2
Barium*	7440-39-3	6	40
Beryllium*	7440-41-7	1.	1
Cadmium**	7440-43-9	0.2	1
Calcium*	7440-70-2	0.5	1000
Chromium*	7440-47-3	8	2
Cobalt*	7440-48-4	6.	10
Copper*	7440-50-8	6	5
Iron*	- 7439-89-6	80	20 ⁻
Lead**	7439-92-1	2	1
Lithium*	7439-93-2	10	· <u>1</u>
Magnesium*	7439-95-4	100	1000
Manganese*	7439-96-5	5	3
Mercury***	7439-97-6	0.1	0.0008
Molybdenum*	7439-98-7	15	1
Nickel*	7440-02-0	15	. 8
Potassium*	7440-09-7	2000	1000
Selenium**	7782-49-2	2	5
Silver*	7440-22-4	6	2
Sodium*	7440-23-5	1000	1000
Strontium*	7440-24-6	10	1
Thallium**	7440-28-0	2	· 2
Tin*	7440-31-5	40	8
Titanium*	7440-32-6 .	25	10
Vanadium *	7440-62-2	5	10
Yttrium*	7440-65-5	5	. 1
Zinc*	7440-66-6	40	4
Cyanide****	57-12-5	8	1
Nitrates		1000	1 .
Nitrogen	•	1000	. 1
Sulfide****		0.05	0.05

^{* =} ICP

^{** =} Furnace

^{*** =} Cold Vapor

^{*** =} AA

^{**** =} Titration

Compound	CAS#	ug/l GW/SW	ng/kg Soil/Sed/Waste
Chloromethane Bromomethane Vinylchloride Chloroethane Methylene Chloride Acetone Carbon Disulfide 1.1-Dichloroethane 1.1-Dichloroethane trans 1.2-Dichloroethane Chloroform 1.2-Dichloroethane 2-Butanone (MEK) 1.1.1-Trichloroethane Carbon Tetrachloride Vinyl Acetate Bromodichloromethane 1.2.2-Tetrachloroethane 1.2-Dichloropropane trans 1.3-Dichloropropene Trichloroethene Dibromochloromethane 1.1.2-Trichloromethane 1.1.2-Trichloromethane Benzene cis 1.3-Dichloropropene 2-Chloroethyl Vinyl Ether Bromoform 2-Hexanone 4-Methyl-2-pentanone Tetrachloroethene Toluene Chlorobenzene Ethylbenzene Styrene Xylene (total) N-Nitrosodimethylamine Phenol Aniline Acrolein Acrylonitrile 1.2-Diphenylhydrazine Diphenylamine bis(2-Chloroethyl)Ether Benzoic Acid 2.4-Dichlorophenol Naphthalene 4-Chloro-3-methylphenol 2-Methylnaphthalene	74-87-3 74-83-9 75-01-4 75-00-3 75-09-2 67-64-1 75-15-0 75-35-4 75-34-3 107-60-2 67-66-3 107-06-2 78-93-3 71-55-6 56-26-5 108-05-4 75-27-4 79-34-5 78-87-5 10061-02-6 79-01-6 124-48-1 79-00-5 71-43-2 10061-01-5	10 10 10 10 10 5 5 5 5 5 5 5 5 5 5 5 5 5	10 10 10 10 5 10 5 5 5 5 5 5 5 5 5 5 5 5
Hexachlorocyclopentadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol	77-47-4 88-06-2 95-95-4	10 10 50	330 330 1600

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2-Chloronaphthalene	91-58-7	- 10	330		
2-Nitroaniline	88-74-4	50	1600		
Dimethylphthalate	131-11-3	10	330		
Acenaphthylene	208-96-8	10	330		
3-Nitroaniline	99-09-2	50	1600		:
2.4-Dinitrophenol	51-28-5	50	1600		•* •
4-Nitrophenol	100-02-7	50	1600		
Dibenzofurans (total)	132-64-9	10	330		
2,4-Dinitrotoluene	121-14-2	10	330		
2,6-Dinitrotoluene	606-20-2	10	330		:
Diethylphthalate	84-66-2	10	330		
4-Chlorophenyl-phenylether	7005-72-3	10	330		
Fluorene	86-73-7	10	330		
4-Nitroaniline	100-01-6	50	1600		
4,6-Dinitro-2-methylphenol	534-52-1	50	1600		
N-Nitrosodiphenylamine	86-30-6	10	330		
4-Bromphenyl-phenylether	100-55-3	10	330		
Hexachlorobenzene	118-74-1	10	330		
Pentachlorophenol	87-86-5	50	330		
Phenanthrene	85-01-8	10	1600		
Anthracene	120-12-7	10	330		
Di-n-butylphthalate	84-74-2	10	330		
Fluoranthene	206-44-0	10	330		
Benzidine	92-87-5	80	1600		
Pyrene	129-00-0	10	330		
Butylbenzylphthalate	85-68-7	10	330		
Chrysene	218-01-9	• 10	330		
Di-n-octylphthalate	117-84-0	10	330		
Benzo(b)fluoranthene	205-99-2	10	330		
Beta-BHC	319-85-7	5	8		
Benzo(a)pyrene	50-32-8	10	330	•	
Indeno(1,2,3-c,d)pyrene	193-39-5	10	330		
Dibenzo(a,h)anthracene	53-70-3	10	330		
Benzo(g,h,i)perylene	191-24-2	10	330		
alpha-BHC	319-84-6	5	8		
delta-BHC	319-86-8	5	. 8		
gamma-BHC (Lindane)	58-89-9	5	. 8		
Heptachlor	76-44-8	5	8		
Endosulfan I	959-98-8	5	8		
Dieldrin	60-57-1	10	16	•	
4,4'-DDE	72-55-9	10	16		
Endrin	72-20-8	10	16		
Endosulfan II	33213-65-9	10	16		
4,4-DDD	72-54-8	10	16		
Endrin Aldehyde .	7421-93-4	10	16		
Endosulfan Sulfate	1031-07-8	10	16		
4,4-DDT	50-29-3	10			
Endrin Ketone	53494-70-5	10	16	-	
Methoxychlor	72-43-5	5	16		
Chlordane	57-74-9		80		
Toxaphene	8001-35-2	10	80		
Arochlor 1016	12674-11-2	10	160		
Arochlor 1221		10	80		
Arochlor 1232	11104-28-2	10	80	-	
Arochlor 1232	11141-16-5	10	80		
Arochior 1242 Arochior 1248	53409-21-9	10	80		
NIOCHIOT 1240	12672-29-6	10	80		

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Arochlor, 1254	11097-69-1	1	160
Arochlor 1260	11096-82-5	1	160
1,2-Dichloroethene (total)	71-55-6	5	330
Fluorotrichloromethane	75-69-4	5	ຸ 330
Dichlorodifluoromethane		5	330
Paraldehyde	123-63-7	50	330
Methylisobutylketone	108-10-1	50	330
Tetrahydrofuran	109-99-9	5	330
Pentachlorophenol	87-86-5	50	1600
Carbazole	86-74-8	10	330
Pyridine	101-86-1	10	330
Dinitrobenzenes (total)		5	330
2-Picoline	109-06-8	10	330
Tetrachlorobenzene	15721-02-5	5	330
Toluenediamine	25376-45-8	5	330

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HIGH CONCENTRATION INORGANIC DETECTION LIMITS

Parameter	Detection Limits mg/kg
Aluminum	400
Antimony	20
Arsenic	20
Barium	120
Beryllium	40
Cadmium	6 0
Calcium	800
Chromium	
Cobalt	28
Copper	20
Iron	40
Lead	200
Lithium	€0
Magnesium	200
Manganese	800
Mercury	40
Molybdenum	0.3
Nickel	40
Potassium	40
Selenium	
Silicon	20
Silver	800
Sodium	40
	4000
Strontium	
Thallium	400
Titanium	400 .
Tin	
Vanadium	. 200
Yttrium	
Zinc	40
Cyanide	1.5

HIGH CONCENTRATION VOLATILES DETECTION LIMITS

Parameter.	Detection Limits ug/kg
Benzene	500
Bromochloromethane	500
Bromoform	500
Bromomethane	1000
Carbon Tetrachloride	500
Chlorobenzene	500
Chloroethane	1000
2-Chloroethyl Vinyl Ether	1000
Chloroform	500
Chloromethane	1000
Dibromochloromethane	500
1,1-Dichloroethane	500
1,2-Dechloroethane	500
1.1-Dichloroethene	500 -
trans-1,2-Dichloroethene	500
1,2-Dichloropropane	500
cis-1,3-Dichloropropene	500
trans-1,3-Dichloropropene	500
Ethyl Benzene	500
Methylene Chloride	500
1,1,2,2-Tetrachloroethane	500
Tetrachloroethene	. 500
Toluene	500
1,1,4-Trichloroethane	500
1,1,2-Trichloroethane	500
Trichloroethen	. 500
Vinyl Chloride	1000
Acrolein	•
Acetone	1000
Acrylnitrile	
Carbon Disulfide	500
2-Butanone	1000
Vinyl Acetate	1000
4-Methyl-2-pentanone	. 1000 .
2-Hexanone	1000
Styrene	500
Xylenes (total)	

HIGH CONCENTRATION SEMI-VOLATILES DETECTION LIMITS

	•
Fluorene	19,800
4-Nitrophenol	96,000
4-Chlorophenyl Phenyl Ether	19,800
Diethyl Phthalate	19,800
4,6-Dinitro-2-methylphenol	96,000
1,2-Diphenylhydrazine	201000
N-Nitroso Diphenylamine/Diphenylamine (to	tal) 19,800
4-Nitroaniline	96,000
4-Bromophenyl Phenyl Ether	19.800
Hexachlorobenzene	19,800
Pentachlorophenol	96,000
Phenanthrene	19,800
Anthracene	19,800
Di-n-Butyl Phthalate	19,800
Fluoranthene	19,800
Pyrene	19,800
Butyl Benzyl Phthalate	19,800
Chrysene/Benzo(a)Anthracene (total)	19,800
bis(2-Ethylhexyl)Phthalate	19,800
Di-n-Octyl Phthalate	19,800
Benzo(b)Fluoranthene/Benzo(k)Fluoranthene	19,800
Benzo(a)Pyrene .	19,800
Indeno(1,2,3-c,d)Pyrene	19,800
Dibehzo(a,h)Anthracene	19,800
Benzo(g,h,i)Perylene	19,800
2-Nitroaniline	96,000

TABLE 9. QUALITY CONTROL PROCEDURES

Parameter	Spikes and Surrogates	Reference Samples
Ignitability	NA -	Every set of samples
Corrosivity	NA	Every set of samples
Reactivity*		
EP Toxicity	l spiked sample in set of 20 or less samples added after extraction , or whenever a new matrix is processed	Every set of samples
Metals	I spiked sample in set of 20 or less samples added prior to digestion, or whenever a new matrix is processed	Every set of samples
Gas Chromatog- raphy	l spike sample and l duplicate spike sample in 10 or less samples. Surrogates added to all samples	Every set of samples
Gas Chromatog- raphy/Mass Spectroscopy	<pre>1 spike sample and 1 duplicate spike sample in 10 or less samples. Surrogates added to all samples</pre>	Every set of samples
Cyanide	I spiked sample per 20 analyses (or sample set), or whenever a new matrix is processed	Every set of samples
Sulfides	I spiked sample per 20 analyses (or sample set), or whenever a new matrix is processed	Every set of samples
pH	NA	Every set of samples
T0X*	l spiked sample in 10 or less samples	Check standard every 15 samples -
Misc. Inorg. Parameters	I spiked sample per 20 analyses (or sample set), or whenever a new matrix is processed	Every set of samples

HAZARDOUS WASTE STORAGE LOG

HAZARDOUS WASTE MANIFEST LOG

STORAGE CODE: SO1 STORAGE LOCATION: The Hazardous Waste Storage Unit at the

	1	•	INBOUND WASTE	1			f		1	I	1	OLITBOUND WASTE		
G T S	DATE IN	INCOMING MANIFEST MUMBER	GENERATOR NAME & 1.D. NAMBER	WASTE DESCRIPTION	EPA H/N CODES	MLPEER of CONTAINERS		LOT	TRANSPORTER NAME & I.D. NUMBER	DATE OUT	CUTGOING MANIFEST MUMBER	DESTINATION TSORF HAME & I.D. NUMBER	TRANSPORTER NAME & I.D. MUMBER	DATE MANIFEST COPY RETURNED
								*******				^		
			**********				••••	-****		ļ	*************	RTT ROYALO 6 R 6 F 6 A A A 4 4 4 A A 6 6 6 6		*******
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1					=									

G = On-site Generated Waste (90 Days) T = Transfer Facility Waste (10 Days) S = Storage Facility Waste (365 Days)

FINGERPRINT RESULTS FORM

FINGERPRINT ANALYSIS TEST RESULTS FORM

General Informati	<u>lon</u>		
Manifest #:	. 1000per.	Date Recei	ved:
Generator Name:		**************	
Generator EPA ID	# c		
Waste Stream Desc	cription:		
Number of Drums I	Received:		
Test Results and	Comparison		
Number of Drums	rested:	· · · · · · · · · · · · · · · · · · ·	
	Original A	<u>Analysis</u>	<u>Fingerprint</u>
Physical Characte	eristics		
Color			
Viscosity			
Solids			
Phase(s)		Management of the second	
рН	MATERIAL TOTAL TOT		
Specific gravity			NOTE: 1
Discrepancies and	d Their Resol	ution:	

essent constant of the second	12000200		,
Sampled and anal	yzed by:		
-	(Si	gnature)	
	Signature of	Branch Oper	ations Manager or



Van Waters & Rogers Inc. Revised: July 6, 1990

CHAPTER D

PROCESS INFORMATION and SECONDARY CONTAINMENT SYSTEM DESIGN and OPERATION

(40 CFR Part 264.30-37, 70-77, and 170-178) (OAC 3745-54-17, 18 and OAC 3745-55-70 through 78)

CONTAINER MANAGEMENT PRACTICES

The hazardous waste management activities conducted at the facility will consist only of accumulating containers of waste solvent from off-site generators and temporarily storing them until they are taken to a permitted recycling/disposal facility for treatment. Only one location in this facility will be used for unloading, storage, and loading containers of hazardous waste. This area is designated on the site plan.

The facility will receive small truckloads of containerized waste from off-site generators and temporarily store them in the hazardous waste storage area. The containers will remain in storage until a large quantity is accumulated. A full truckload will then be transported to a permitted recycling/disposal facility for final treatment.

The handling of waste containers while they are at the Branch and in temporary storage will be kept to an absolute minimum to reduce the possibility of damage and accidental spills

of waste. Trucks utilized to transport waste will be backed into the loading dock adjacent to the storage area. The wheels will be chocked, and a fork lift truck will be used to off-load containers of hazardous waste onto wooden pallets. Drums will be loaded four per pallet and portable tanks will be loaded one per pallet. After verification of counts, labels, contents, and integrity of the containers, the containers will be moved to the hazardous waste storage area. The containers will be placed in the storage area on pallets laid down to keep them out of any liquids that might accumulate in the secondary containment system. Aisle space will be maintained such that each container will be accessible to facilitate inspections and corrective actions in the event of a container failure.

All containers of hazardous wastes will be stenciled with the date the container entered storage. This date and other information about the waste will be entered onto a hazardous waste manifest log (Exhibit D-1). The information on the log is taken, in part, from the information required by 40 CFR Part 264.73. The log will track the waste from the date it enters storage to the day it is removed from storage and transported to a permitted treatment/disposal facility. The log shows the type of waste received (EPA hazardous waste code), the amount, the manifest number, the treatment/disposal facility used, and the dates the wastes entered and were removed from storage.

Before containers of waste will be stored at this facility, their contents will be verified by comparing the shipping manifests with the original Waste Survey Forms. The type of hazardous wastes listed on the manifests and container labels will have to match those on the Waste Survey Forms. If there is a discrepancy, it will be investigated immediately. Wastes restricted from land disposal will have to be accompanied by a land disposal restriction statement. While in storage at this facility, the containers will be inspected in accordance with the inspection procedures and schedule contained in Chapter F of this application.

After full truckloads are accumulated, the pallets of containers will be moved to the staging area near the truck dock, prepared for shipment, and then loaded onto trucks for transportation to a permitted treatment/disposal facility. The likelihood of spills will be remote due to the minimal handling involved; however, should a spill occur, spilled material will be quickly contained and absorbed onto inert adsorbents. All contaminated material will then be collected and placed in a recovery/salvage drum suitable for the waste. The container will be properly labeled and manifest forms prepared. The waste will be sent to a permitted disposal facility.

All containers utilized for hazardous wastes will be of proper specifications for the hazardous constituents therein.

Container types for the waste streams (spent solvents) authorized for storage at this facility are specified by the Department of Transportation (DOT) regulations on hazardous materials (49 CFR). Unauthorized containers will not be accepted for transportation or storage. Waste streams will be containerized in DOT specification 17E and 17H metal drums of various volumes (usually 55-gallon). Spent solvent waste streams also are authorized to be contained in DOT specification 34 polyethylene drums and DOT specification portable tanks (DOT specification 51 and 57 steel). Container specifications for hazardous materials are contained in 49 CFR Part 178. All containers will be tightly closed during storage.

Generators who utilize our services will be encouraged to use the same container for the waste material which originally held the virgin product. Generators will be instructed to avoid the practice of mixing waste streams in the same container because of potential problems. Mixing also may render the waste stream economically valueless because of the inability of the treatment/disposal facility to recycle the material. Economic incentive is provided to the off-site generator to avoid mixing or creating incompatible wastes.

An operations manual describing procedures for handling hazardous waste containers will be kept in the Branch Operations Manager's office, and will be readily available for review

whenever necessary. A copy of the pertinent section of the manual is included at the end of this chapter as Exhibit D-4.

SECONDARY CONTAINMENT SYSTEM

Hazardous waste to be temporarily stored at this facility generally will be contained in 55-gallon drums or 350-gallon portable tanks compatible with the hazardous constituents within the container. These containers will be held in a specially designed and designated hazardous waste management unit with a secondary containment system. The unit will be located at the east side of the property adjacent to the warehouse as shown on the enclosed site plan (refer to Chapter B).

The floor of the secondary containment system is constructed entirely of concrete. The west wall of the unit is the concrete loading dock. The length of this side of the unit is 50 feet. The north wall of the unit is the 24-inch concrete wall of a chemical storage tank farm. The length of this side of the storage unit is 55 feet. The south wall is a concrete ramp leading from the loading dock to the yard. The length of this dike wall is 25 feet. The east dike wall is the concrete base of a small building. It is 15 feet long. There is a six-inch high dike (speed bump) across the front entrance of the unit. The length of the speed bump is 46 feet. Seams between the walls and the floor ARE will be sealed with an epoxy putty. The floor of

the unit IS will be sealed with an epoxy resin. THE SURFACE OF THE SECONDARY CONTAINMENT STRUCTURE IS FREE OF CRACKS AND/OR GAPS.

Concrete is acknowledged to be resistant to all neutral organic solvents, both halogenated and non-halogenated, and will be able to withstand a leak or spill of waste until the daily inspection of the area detected the spill. The epoxy resin is also non-reactive with spent solvent wastes and is added as a sealer to fill in hairline cracks which may develop in the cement floor, and to make the concrete as non-porous as possible. Concrete also has the necessary bearing strength to securely hold heavy containers of waste. The floor of the containment system will be sealed as needed with the epoxy resin to assure the integrity of the containment unit.

An unlikely problem which may be envisioned is that a corrosive waste or an aged halogenated solvent containing water (in the absence of the inhibitors normally added to such solvents) could generate hydrochloric acid which is corrosive to steel containers and concrete. This situation would not be expected to occur with the storage of hazardous waste in this facility due to the short time period that any one container will be stored and the regular inspection of the containers and the storage area. A spill of hazardous waste would be neutralized and cleaned-up immediately upon detection during the daily

inspection of the containment area.

The construction of the proposed secondary containment area is shown schematically on the enclosed drawing (Exhibit D-2). The unit will be covered by a roof.

The design of the containment area will permit the storage of 11,000 gallons of hazardous waste. Adequate aisle space will be provided within and around the perimeter of the secondary containment area to allow access to each and every container by a forklift truck. All containers while in storage will be stacked onto double layers of pallets to prevent contact of the containers with accumulated liquids. This will raise the containers at least eight inches above the floor of the secondary containment system. Containers typically will be stacked two high but may at times be stacked three high. The arrangement of the stored containers will allow for easy access to each container to facilitate inspections for leaks and proper labeling.

The containment area is designed to have a capacity of 5,423 gallons of liquid. The volume is calculated as follows:

1,450 square feet x .50 feet = 725 cu. ft.

1 cu. foot = 7.48 gallons

725 cu. feet x 7.48 gallons per cu. ft. = 5,423 gallons

The maximum volume to be stored at any one time will be 11,000 gallons. The regulations require that secondary containment systems be able to contain 10% of the maximum contained volume of hazardous waste, or in this case 1,100 gallons. To this figure one must add capacity for precipitation entering the containment area, and consideration must be given to the amount of space that is consumed by the pallets.

The Rainfall Frequency Atlas of the United States (Technical Paper No. 40) prepared by the Hydrologic Services Division of the U.S. Weather Bureau states that a 100-year 24-hour rainfall in the area of the facility is around 4.0 inches. Assuming a worst-case precipitation event, 3,615 gallons of water may enter the containment unit during a severe storm. The pallets used to raise containers off the floor of the storage unit and keep them above accumulated liquids displace 13.7 gallons each. There will be 50 pallets required during storage of the maximum volume of waste. These will displace 685 gallons. A total of 4,300 gallons of containment will be displaced by significant precipitation and pallets. The remaining containment capacity will be 1,123 gallons.

ø.

The secondary containment area eventually will be covered with a roof to minimize the amount of precipitation allowed into the dike area. There appears to be more than enough volume available to contain a spill of hazardous waste and any

precipitation that might possibly get in. The secondary containment area will have well over the capacity required by regulation.

The location of the secondary containment area will enable us to maintain close scrutiny over it during normal working hours. During inclement weather the level of any accumulated precipitation will be closely monitored, keeping in mind the need to empty the secondary containment area to prevent its coming into contact with the containers of waste. The method for emptying the secondary containment area will be by a manually operated pump. Accumulated liquids will be pumped to 55-gallon drums and held pending laboratory test results. If it proves to be uncontaminated, the accumulated precipitation will be discharged to the sanitary sewer system.

If during storage waste solvents leak into the secondary containment system, a sample will be drawn and taken to a laboratory for analysis if the source of the leak is not obvious. All liquid in the secondary containment area will be collected and placed into drums using a portable pump. The CONTAMINATED ACCUMULATED LIQUIDS WILL BE MANAGED AS HAZARDOUS WASTE PER OAC 3745-55-75). drums of waste will be sealed, labeled, manifested, and taken to a permitted treatment facility for recycling or disposal. Reporting required by the nature and severity of the release will be made to appropriate government agencies and

documentation kept as part of the branch operating record.

Accumulated liquids which are not obviously contaminated will be pumped out of the containment unit and stored in 55-gallon drums. These drums will be stored in the containment unit and labeled as "accumulated liquid". When full, two samples will be drawn from each drum; one from the top layer and one from the bottom of the drum. The samples will be bottled and sent to a reputable laboratory and analyzed for flash point, total organic halogen (TOX) and total organic carbon (TOC).

Samples with a flash point under 140 degrees F, or TOX concentrations at 1 ppm or greater, or TOC concentrations at 50 ppm or greater will indicate that the drum contents are CONTAMINATED. THE ACCUMULATED LIQUID WILL BE CONSIDERED hazardous waste and will be managed as such. ADDITIONAL ANALYTICAL WORK WILL BE PERFORMED TO DETERMINE THE EXACT NATURE OF THE CONTAMINATION AND THE PROPER METHOD FOR MANAGING THE WASTE.

If the samples pass the test (are not contaminated), THE ACCUMULATED LIQUID WILL BE CONSIDERED TO MEET THE INDUSTRIAL WASTEWATER DISCHARGE PRE-TREATMENT STANDARDS (OAC 3745-3-04). UNCONTAMINATED ACCUMULATED LIQUID WILL BE DISCHARGED TO THE SANITARY SEWER SYSTEM. the contents of the 55-gallon drum will be discharged to a sanitary sewer. Van Waters and Rogers Inc.

will maintain records of these analyses and discharges in the facility operating record for three years from the date of entry into the operating record. The "Accumulated Liquids Report" form is shown as Exhibit D-3.

Van Waters & Rogers Inc. Revised: July 6, 1990

CHAPTER G

CONTINGENCY PLAN
(40 CFR Part 264 Subpart D)
(OAC 3745-54-50 through 56)

Van Waters & Rogers Inc. is an established major distributor of industrial chemicals and solvents, many of which are hazardous (flammable, corrosive, toxic, reactive). Consequently, the company has long had in place a formal Emergency/Contingency Plan designed to protect its employees, property and that of its neighbors and the general public in the event of an emergency. The expansion of the business to include the temporary storage of hazardous waste has required only a modest modification of the existing plan to cover the additional requirements imposed by the management of hazardous wastes.

The facility contingency plan contains all of the necessary information to respond quickly and efficiently to an emergency situation involving hazardous materials. The plan addresses the following items:

Arrangements made with local emergency response agencies. List of qualified emergency coordinators. Emergency equipment list. Procedures to amend the plan. Evacuation procedures. Emergency procedures. Post emergency procedures.

Included after this cover sheet are copies of the cover letters used to send copies of the Emergency / Contingency Plan which is being used while the facility is under RCRA interim status. As soon as the RCRA Part B permit is granted (or as soon as the regulatory authorities approve of this version of the plan) we will distribute copies of the plan contained in this application to the appropriate local emergency response agencies.

A copy of the Contingency Plan follows.

Van Waters & Rogers Inc. Revised: July 6, 1990

VAN WATERS & ROGERS INC.
Subsidiary of UNIVAR

EMERGENCY/CONTINGENCY PLAN

Evendale (Cincinnati) Branch 3025 Exon Avenue Evendale, Ohio 45241

EPA ID#: OHD 002 899 847

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I. OBJECTIVES of the PLAN

This Emergency/Contingency Plan has two major purposes. The first is to assign responsibilities. The plan assigns specific authorities to key personnel for the implementation of emergency procedures. The plan also defines specific procedures to be used by key personnel in the event of an emergency.

Secondly the plan is designed to provide a total facility response program applicable to any emergency. Responses required in the event of a specific type of emergency - fire, explosion, chemical spill, or natural disaster - are spelled out. The plan is designed to enable branch personnel, in the event of an emergency, to undertake actions that will minimize any threat to the facility, employees, residential and business neighbors, company assets, adjoining properties, and to human health and the environment.

The plan should be kept in one place at the facility. This place should be accessible to anyone needing the plan in an emergency situation, and copies should be distributed to key personnel (those with responsibilities during emergency situations). The plan should be understood by all employees.

The plan is organized so that changes in personnel, procedures and regulations can be easily incorporated into the plan as they occur, assuring up-to-date information. At the end of this section is a list of items that should be updated on a regular basis to assure the plan remains current.

Additional details for procedures outlined in this plan are found in three other Van Waters & Rogers Inc. documents in the possession of each branch office:

- 1. Operating Standards Manual
- 2. Hazardous Waste Standards Manual
- 3. Safety & Compliance Review Documentation Manual

The contingency plan must be modified if the any of the following conditions exist:

- 1. The facility permit is revised.
- 2. The Contingency Plan fails in an emergency.
- 3. The facility changes its design or operation, or for other circumstances that materially increases or decreases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an

emergency.

- 4. The list of emergency coordinators changes.
- 5. The list of emergency equipment changes.

Whenever the contingency plan is revised it must be redistributed to the local police and fire departments, local hospitals, and state and local emergency response agencies that may be called upon to provide emergency services. The revised plan must also be submitted to the director of the state agency in charge of hazardous waste programs if the facility has a RCRA Part B permit or interim status.

This Emergency and Contingency Plan is designed to satisfy the requirements for such a plan as mandated by the Resource Conservation and Recovery Act (RCRA), the Superfund Amendments and Reauthorization Act (SARA) - Title III, and the Hazardous Waste Operations and Emergency Response (HAZWOPER) provisions of the Occupational Safety and Health Administration (OSHA) regulations.

Update Form - Contingency Plan Information

Please keep current the name, address, and phone numbers (home and work) for the following emergency personnel:

- 1. Emergency Coordinator
- 2. Alternate Emergency Coordinator(s)
- 3. Fire/Spill Control Team Leader(s)
- 4. First Aid Team Leaders(s)
- Assembly Point Leader(s)

Please develop a list of the names of the people assigned to each function listed above.

Please provide the phone number of the following local emergency services agencies:

- 1. Police Department
- 2. Fire Department
- 3. Ambulance
- 4. Hospital/Clinic
- 5. Emergency Services Disaster Agency
- 6. Local Emergency Planning Commission (LEPC)
- 7. State Emergency Response Commission (SERC)

Please provide the name, address, and telephone number of adjacent property owners.

Please provide the name, address, and phone number of a licensed transporter of hazardous materials/wastes that you could call to provide assistance in the event of an emergency.

Please provide the name, address, and telephone number of a contractor that you could call for assistance during an emergency involving hazardous materials or wastes (advice and/or clean-up).

On the attached drawing, please show the location of emergency/safety equipment. Use the following codes:

- FE = fire extinguishers
- EK = emergency response kits A,B, and C
- AM = absorbent materials for spill control
- RD = recovery drums
- EP = electrical panels
- EA = emergency alarms
- SS = storm sewers

Please keep the above items up-to-date. Send any changes to the Regional Environmental and Operations Manager. Thank you.

II. DISTRIBUTION OF THE PLAN

Each branch will receive and maintain one original copy of the plan. It is to be kept in an accessible location.

Copies of the complete plan are to be distributed to all emergency services agencies reasonably expected to be called upon in the event of an emergency. The recipients are to acknowledge receipt of the plan. The following organizations are to be sent a copy of this plan:

Local Fire Department Local Police Department Local Hospital/Emergency Room Appropriate State Agencies

The Local Emergency Planning Commission is responsible for sending copies of this plan to concerned citizens and members of the community.

Depending on the location, there may be other organizations that would receive a copy of the plan:

Rescue Teams Emergency Ambulance Corps

Copies of all current receipts and letters of transmittal are to be kept on file and be readily available for inspection at the Branch.

Current Date

Police Department
Fire Department
Hospital
Local Emergency Planning Commission

Re: Van Waters & Rogers Inc. Branch Street Address City, State, Zip Code

Dear Director:

Van Waters and Rogers, Inc. operates a chemical distribution center at the above address. In our continuing effort to keep emergency service agencies and others informed who potentially may be called upon during an emergency situation at our facility, we are providing you with a copy of our most current Emergency/Contingency Plan. Knowledge of our facility and its operations as discussed in our Emergency/Contingency Plan will help you provide informed emergency assistance to us in the unlikely event of a fire, explosion, or the release of a toxic material.

We are required by the Resource Conservation and Recovery Act, and the Superfund Amendments and Reauthorization Act to show that we have informed local emergency assistance facilities such as yours of the equipment, supplies, and plans we have in-place in the event of an emergency at our facility. We ask that you review the plan, and sign and return a copy of this acknowledgement of its receipt in the enclosed envelope. Also, we would appreciate your comments or suggestions on the plan in order to assist us in making it as useful as possible to those who may be involved in an emergency situation at our facility.

Thank you for your cooperation in this regard.

Very truly yours,

Name Regional	Environmental	and	Operations	Manager
Acknowled	dgement:			
Name:	1.000			
Title: _				
Date:				

III. BRANCH SAFETY ORGANIZATION

The responsibility for the Branch's safety program lies with the Branch Manager. The organization used to implement this plan will vary according to the size of the Branch, the chemicals it stores, the existence of repackaging facilities, and its involvement in the management of hazardous wastes. The implementation of this plan requires an EMERGENCY COORDINATOR and an ALTERNATE EMERGENCY COORDINATOR(s).

Usually the Branch Operations Manager functions as the Emergency Coordinator and the Branch Manager is the Alternate. Although the Alternate is second in command, he/she must be fully qualified to take over all the functions of the Emergency Coordinator in his/her absence. In addition to these two positions, the following assignments may be provided for:

FIRST AID LEADER(s)
FIRE/SPILL RESPONSE TEAM LEADER(s)
ASSEMBLY POINT LEADER(s)

The lists of personnel assigned as leaders and team members are located at the end of Section IV: EMERGENCY RESPONSE PERSONNEL. The responsibilities of each function follow:

A. BRANCH MANAGER

It shall be the responsibility of the Branch Manager with assistance from Regional Staff to provide the mechanisms necessary to implement the plan.

1. Personnel

- a. An Emergency Coordinator and Alternate must be designated and trained.
- b. Additional personnel are designated and trained to implement the plan.
- c. All personnel are aware of the hazards of the products handled at the branch.
- d. Selected branch personnel are trained in:

First Aid procedures
Use of respiratory equipment
Use of self-contained breathing apparatus
Use of Chlorine Emergency Kits

e. All branch personnel are trained in the use of fire extinguishers.

f. All personnel participate in a semi-annual training exercise based on the plan.

2. Equipment

All equipment listed in this plan is on hand, is in operating condition, and is available for use in emergency response situations.

3. Plan Update

The plan will be kept current and complete by a quarterly review. The review should assess changes in operating procedures, equipment, and personnel.

4. Documentation

All employee training in the implementation of this plan will be documented. Distribution of the plan to appropriate agencies will be made and receipts obtained.

B. EMERGENCY COORDINATOR

It shall be the responsibility of the Emergency Coordinator with assistance from the Regional Staff to implement the plan as needed.

1. Personnel

- a. All the personnel necessary to implement this plan shall be made aware of their responsibilities as outlined in the plan. Employees must be informed of the hazards involved with the materials handled at the branch.
- b. Selected branch personnel are to be trained in:

First Aid procedures
Use of respiratory equipment
Use of self-contained breathing apparatus
Use of Chlorine Emergency Kits

- c. All branch personnel are to be trained in the use of fire extinguishers.
- d. All personnel are to participate in a semi-annual training exercise regarding this plan.
- e. Personnel are to be assigned to and trained to

perform the duties needed on the:

Fire/spill Response Team(s)
First Aid Team(s)
Assembly Point Teams(s)

2. Equipment

Insure that all equipment identified in the plan is on hand, is in operating condition, and is specifically identified and set aside for use upon implementation of this plan, as applicable. Insure that an inventory of this equipment is taken and that this inventory is documented.

3. Authority

The Emergency Coordinator has the authority to commit all available resources required to implement this plan.

- Implementation of the plan.
 - a. Arrangements with local authorities concerning emergency assistance are to be made and documented.
 - b. In the event of imminent or actual emergency, the Emergency Coordinator must implement the plan as follows:
 - Notify all concerned of the emergency situation including plant personnel and neighbors as applicable.
 - 2. Analyze the emergency situation.
 - 3. Initiate the appropriate corrective action.
 - 4. Secure the emergency scene.
 - 5. Clean-up the emergency scene.
 - 6. Working with Regional Operations staff, file reports with company and regulatory agencies as appropriate and required.

C. ALTERNATE EMERGENCY COORDINATOR(S)

Anyone assigned the duty of Alternate Emergency Coordinator shall be responsible for carrying-out the duties of the Emergency

Coordinator in his/her absence. The Alternate Emergency Coordinator(s) must be fully aware of the procedures and requirements of this plan.

D. FIRST AID TEAM LEADER(S)

It shall be the responsibility of the First Aid Team Leader(s) with the assistance and direction of the Emergency Coordinator to insure that all personnel assigned a responsibility in First Aid Teams are familiar with their responsibilities under this plan.

- 1. He/she will ensure that all equipment used by the First Aid Team is on hand, in operating condition and specifically identified and set aside for use by the First Aid Team.
- 2. He/she will coordinate First Aid Team(s) during emergencies.
- 3. He/she will assist personnel that are trained in first aid and maintain an up-to-date knowledge of first aid equipment and techniques.

E. FIRE/SPILL RESPONSE TEAM LEADER(S)

It shall be the responsibility of the Fire/Spill Response Team Leader with the assistance and direction from the Emergency Coordinator to ensure that all personnel with fire and spill control responsibilities are familiar with their function under this plan.

- 1. Ensure that all fire/spill response team members are familiar with the hazards of the products we handle and the potential emergencies related to these products.
- Ensure that fire/spill response team members understand that they are not trained or equipped to handle a major fire. They must know their limits and always stay within their capabilities.
- 3. Ensure that all equipment identified in the plan for use by the fire/spill response team is on hand, is in operating condition and is specifically marked and set aside for use by the fire/spill response team as applicable.
- 4. He/she will coordinate members of the fire/spill team(s) during an emergency.

F. ASSEMBLY POINT LEADER(S)

Normally there should be an Assembly Point Leader for the three areas of a branch - the office, the warehouse, and the repack areas. It shall be their responsibility to:

- 1. Turn off the main electrical power switch in the building for which they have responsibility.
- Close doors and windows if there is time to do so safely.
- Proceed directly to the assembly area(s) as outlined in the evacuation plan.
- 4. Account for all personnel assigned to their area and report any absences to the Emergency Coordinator.
- 5. Keep personnel in assembly area calm and together.
- 6. Coordinate with the First Aid Team Leader(s) and the Emergency Coordinator as appropriate.

IV. EMERGENCY RESPONSE PERSONNEL (TELEPHONE NUMBERS)

The phone number listing of those in charge of emergency situations according to the plan are posted within the facility and are kept readily available by the Emergency Coordinator and his/her alternates.

A. WITHIN Van Waters and Rogers Inc.

The state of the s	Emergency Coordinator	Work Home	513-563-2440 Nonresponsive
	Darrell Wheeler Nonresponsive		
2.	Alternate Emergency Coordinate	tor #1 Work	513-563-2440
	Ivan Byers Nonresponsive	Home	Nonresponsive
3.	Branch Manager	Work Home	513-563-2440 Nonresponsive
	Ivan Byers Nonresponsive		
4.	Regional Environmental and O	perations Work	Manager 708-573-4300
	Robert D. Hickman Nonresponsive	Home	Nonresponsive
5.	Regional Regulatory Manager	Work Home	708-573-4300 Nonresponsive
	James P. Hooper Nonresponsive	Home	
6.	Area Operations Manager	Work Home	317-547-4811 Nonresponsive
	Michael Stevens Nonresponsive		
7.	Area Manager	Work Home	317-547-4811 Nonresponsive
	William H. Crutcher, Jr. Nonresponsive		

C.

D.

B. IN-HOUSE EMERGENCY RESPONSE TEAM(S)

Name	Duties			
Darrell Wheeler	Emergency Coordinator			
Kieth Dorrel	First Aid Team Leader			
Jack Santel	Fire/Spill Response Team Leader			
Robin Robbins	Assembly Point Leader			
Ivan Byers	Alternate Emergency Coordinator			
EMERGENCY RESPONSE ASSISTANCE	(Contractors)			
CHEMTREC	1-800-424-9300			
Environmental Enterprise (Chemical Spill Assistar				
Schneider Tank Lines (Hazardous Materials Transportation Assistand	1-800-558-5091 Ce)			
National Response Center	1-800-424-8802			
Ohio Environmental Prote Agency	1-800-282-9378			
LOCAL AUTHORITIES (Area Code	513)			
Fire Department	911 or 825-2260			
Police Department	911 or 825-2280			
Ambulance	911 or 825-2260			
Bethesda North Hospital	569-6111			

579-3100

Local Emergency Planning Committee

D. LOCAL AUTHORITIES (Area Code 513)

State Emergency Response Commission

614-644-3199

ADJACENT NEIGHBORS Ε.

Owens-Corning Fiberglass

563-2323

2987 Exon Ave.

Clayton Manufacturing Co. 3051 Exon Ave.

563-1300

V. TRAINING

All employees of the branch are to be familiar with the contents of this plan. They must know the primary and secondary exits within their respective work areas, as well as the location of fire extinguishers and first aid kits which they may utilize in an emergency. This training is to be documented and reviewed at least annually.

A. CLASSROOM

All branch personnel with hands on contact with hazardous chemicals and hazardous wastes are to receive appropriate training from Regional Operations Staff. This will include, at a minimum, the Branch Operations Manager and all warehousemen and drivers.

All new employees are to receive this training within six weeks of hire. Training is to be repeated at least annually. A copy of the training outline is included at the end of this section. Documentation indicating that annual training has been conducted at the Branch may be kept at the end of this section.

Specific branch personnel are to be trained in:

First Aid
Use of respirators and SCBA
Use of fire extinguishers
Fire/Spill control techniques

B. PRACTICE DRILLS

Practice drills of the Contingency Plan are to be conducted at least annually. These drills are to be documented and should include a description of each test, its results, and recommendations for any changes or improvements. Different situations should be tested from time to time and certain parameters measured to determine the effectiveness of the plan. At a minimum, the following situations and measures should be simulated and the results of each test recorded:

1. Situation: Evacuation due to fire.

Measures: Time it takes to evacuate; time it takes

to obtain head-counts of personnel.

2. Situation: Explosion with injuries and missing

personnel.

Measures: Time it takes to evacuate; time it takes

to obtain head-counts of personnel; capability of first-aid team(s) to attend to injured; capability to find

missing personnel.

3. Situation: Spill of a barrel of ignitable/toxic

(F005) hazardous waste.

Measures: Capability of Fire/Spill Control Team to

respond; adequacy of

equipment/supplies/techniques; efficacy

of personal protective gear.

4. Situation: Fire in an isolated barrel of flammable

material.

Measures: Capability of Fire/Spill Control Team to

respond; adequacy of

equipment/supplies/techniques; efficacy

of personal protective gear.

Documentation of practice drills may be kept at the end of this section.

CONTINGENCY PLAN TRAINING OUTLINE

I. EMERGENCY PLANNING - REGULATIONS

- A. SARA TITLE III
- B. HAZARD COMMUNICATION STANDARD OSHA
- C. HAZARDOUS WASTE RCRA

II. POTENTIAL HAZARDS

- A. TOXICITY
 - 1. Acute
 - 2. Chronic
- B. EXPLOSION
- C. FIRE
- D. SPILL / LEAK
- E. GAS FUMES (toxic)

III. EMERGENCY RESPONSE - RESPONSIBILITIES

- A. EMERGENCY COORDINATOR
- B. ALTERNATE EMERGENCY COORDINATOR
- C. EMERGENCY ASSISTANCE
- D. EVACUATION
 - 1. Assembly Point Leaders
 - 2. First Aid Teams
- E. FIRE TEAMS
- F. SPILL TEAMS

IV. SPECIAL INSTRUCTIONS

- A. TOXIC GASES
- B. CORROSIVES (CAUSTICS)
- C. FLAMMABLES AND COMBUSTIBLES
- D. REACTIVES AND OXIDIZERS

V. CLEAN-UP

- A. COMPATIBILITY OF WASTES and RESIDUES
- B. RESTORATION of FACILITY
 - 1. Grounds and Structures
 - Safety Equipment
 - 3. Operating Equipment

VI. REPORTING

- A. REGIONAL OFFICE
- B. REGULATORY AUTHORITIES

VI. EMERGENCY EQUIPMENT

There are three basic groups of emergency equipment to be maintained at each Branch. These groups include on-site equipment located at various strategic points throughout the Branch, specific hazardous materials emergency response kits, and safety and hazardous materials spill control equipment carried on company vehicles.

A. EQUIPMENT LISTS

1. Certain equipment is to be stationed at fixed locations throughout the Branch:

Fire Extinguishers
First Aid Kits
Respirators
Shovels
Brooms
Protective Clothing
Self Contained Breathing Apparatus (SCBA)
Emergency Response Kits A, B and C

Depending upon the Branch, there may be Chlorine Emergency Response Kits A, B and C on-site as well.

- 2. Tools and equipment used during emergencies are kept in a secure location in a sealed metal box marked Emergency Response Kits A, B and C. The Emergency Response Kits are kept sealed and are to be used only for emergencies. After use the boxes are inventoried and supplies replaced as needed. The boxes are resealed after inventory and resupply.
- 3. Additional emergency response equipment is kept on hand for off-site emergencies and transportation incidents:

Recovery drums
Fire Extinguishers
Bags of inert absorbent
Neutralizing materials (Soda ash, lime)
Shovels

Driver Safety Equipment which must be carried in each power unit includes:

Hard hat with full face shield and chin guard First Aid Kit Fire extinguisher Full face canister respirator

Goggles
Flashlight
Rubber apron, gloves, boots
Slicker suit (Plastic jacket and trousers)
Plastic sleeves
Eye and skin neutralizing solution
Reflective triangles

The contents of the Emergency Response Kits A, B and C are listed at the end of this section.

B. LOCATION of EQUIPMENT

The location of emergency equipment at this Branch is indicated on the drawing at the end of this section.

C. INSPECTIONS of EQUIPMENT

All emergency equipment is to be checked weekly and the inspection documented as part of the Branch maintenance responsibilities. Documentation of inspections of emergency response equipment may be kept at the end of this section.

PACKING LIST AND REORDER GUIDE FOR VAN WATERS & ROGERS TYPE A RESPONSE KIT

To reorder any item in the kit simply identify it by identifying the KIT TYPE (in this case "A") and the number of the item on the list. [e.g., to order a new non-sparking pipe wrench, identify it as B-39]

MAIL YOUR ORDER ALONG WITH YOUR PURCHASE ORDER NUMBER TO:

ROOT BROTHERS MFG. AND SUPPLY CO., INC. 10317 S. MICHIGAN AVE. CHICAGO, IL 60628

OR TELEPHONE YOUR ORDER TO (312) 264-5000

Item #	Quantity	Description
1	1 ea	Aluminum box, 3'd x 3'h x 4' w/handles and snaps
2	4ea	Shovel, Non-sparking, D-handle, flat blade suitable for digging or scooping, S-84
3	lea	Pipe Wrench, Bryllium, non-sparking, 18"
4	2ea	Rake, 14 tooth, Non-sparking w/60" handle; handle will be cut to fit in box R-10
5	lea	Pick, 20" length, Non-sparking w/handle P-1
6	lea	Axe, single bit, 4 lb, non-sparking, w/handle A-5
7	6ea	Lantern, 6v, anti-explosion w/circuit breaker bulb #2206
8	12ea	Battery, 6v, Alkaline #529
9	3suit	Protective Suit, PVC coated polyester fabric, jacket w/detachable hood, bib overall w. fly (2 sz lg, lsz x 1)1035/1037
10	3pr	Boot, pull over shoe, knee high, yellow (2sz 10, 1sz 11) #91
11	3pr	Boot, over sock, steel toe, rubber, black #21

Kit A (continued)
6/86

<u>Item #</u>	Ouantity	Description
12	12pr	Glove, chemical resistant, 14", gauntlet HD, flexible, #1814
13	6 pr	Goggles, non-fogging, clear, SC-2
14	3 ea	Hard Hat w/face shield attachment & face shield, OSHA APPROVED, 45-087-493
15	3ea	Full face respirator equipped for acid gas, organic vapor, dust & mist w/internal nose piece, #1694-G104-F100
16	12ea	Apron, protective, disposable
17	3ea	Squeegee, extra h.d. 24" w/60" handles 3-24
18	3ea	Push broom, h.d. 18" w/screw in handle 108-18
19	lea	Hand Truck, w/lrg 10" x 2.75" wheel, 400# capacity #40107
20	lea	First Aid Kit for 25 people, #530
21	lea	<pre>Hand pump, 600 GPH, Viton Diaphragm Delrin body w/10° of suction hose & 10° of discharge hose</pre>
22	lkit	Viton complete pump repair kit
23	100ft	Rope, 3/4" Manila, 100'
24	2ea	Fire Extinguisher, 10# ABC
25	1ea	Trouble light, DC powered, \$05917
26	lea	Drum pump, polyethylene
27	6ea	#15A rubber tie down straps
28	12pr	Visitors specs, VS-1
29	2rl	Duct tape, 2" x 60yd, #615

Rit A (continued) 6/86

Item_#	Quantity	Description
30	1rl	Wire, 18GA, approx. 830 ft
31	12ea	Hose clamps, SS, #40H (for 2" ID hose)
32	lea	Tool box w/hand tools and socket set (NOT non-sparking)

A FEW ITEMS IN THIS KIT NEED INSPECTION OR REPLACEMENT ON A SCHEDULED BASIS:

ITEM A-8 SHOULD BE REPLACED ON AN ANNUAL BASIS.

ITEM A-24 MUST BE INSPECTED MONTHLY BY QUALIFIED PERSONNEL AND RECHARGED AS NECESSARY.

THE FIRE EXTINGUISHERS ARE DESIGNED FOR MOUNTING ON THE OUTSIDE OF THE KIT:

ON THE RIGHT SIDE OF THE KIT THERE ARE TWO SLOTTED SCREWS. TO MOUNT ITEMS A-24 SIMPLY TAKE THE EXTINGUISHERS OUT OF THE KIT, REMOVE THE BRACKET FROM THE EXTINGUISHER BOX, REMOVE THE SCREW FROM THE RIGHT SIDE OF THE BOX, MOUNT THE BRACKET WITH THE SCREW THAT YOU REMOVED, AND HANG THE FIRE EXTINGUISHER.

THIS KIT IS DESIGNED TO BE SIMPLE AND EASY TO USE. IT IS FOR USE IN EMERGENCIES ONLY. IT IS NOT POSSIBLE TO COVER EVERY SITUATION THAT MIGHT ARISE. MANY OF THE ITEMS ARE DESIGNED FOR SHORT TERM USE. THIS KIT IS NOT DESIGNED FOR SUSTAINED USE IN HAZARDOUS SITUATIONS WITH DANGEROUS MATERIALS.

WARNING! TOOLS AND EQUIPMENT IN THIS KIT WILL CAUSE SPARKS. NON-SPARKING TOOLS HAVE BEEN SPECIFICALLY IDENTIFIED.

Packing List and Reorder Guide for VAN WATERS & ROGERS Type B Response Kit

To reorder any item in the kit simply identify it by identifying the KIT TYPE (in this case "B") and the number of the item on the list. [e.g., to order a new non-sparking pipe wrench, identify it as B-39]

Mail your order along with your purchase order number to:

Root Brothers Mfg. and Supply Co., Inc. 10317 S. Michigan Ave. Chicago, IL 60628 or telephone your order to (312) 264-5000

Item #	Quantity	Description
1	lea	Aluminum box, 3'd x 3'h x 4' w/handles and snaps
2	lea	Pump, Air PolyPro 1" x 1" w/flanges, gasket & bolts M2/P0
3	1kt	Repair kit, complete, for above pump
4	lea	1251b. pressure regulator for pump
5	2ea	Hose, 1" EDPM/Nitrile, with Brass 1" NPT Fittings, 50'
6	lea	Hose, 1/4" air, with fittings to hook up to air supply on tractor or compressor
7	2rl	Polyethylene Sheeting 2 RL 8 x 100, 4 Mil
8	2ea	Boom, Arsorb, Floating 10' x 5"
9	2ea	Jack. 12" Lift, 22" long L5J5 Hydraulic, Long Stroke
10	2ea	Strap, Tank Truck, Lift, EE2-812 x 20' Nylon Basket 53800#
11	2ea	Rope, 100' Manila, CN 121
12	1ea	Crow Bar, #160, Pinch point

Kit B (continued)
6/86

Item #	<u>Ouantity</u>	Description
13	2ea	Wrecking bar, #166, 3/4" x 36" x 5 1/4"
14	lea	Hammer, Brass 2#
15	lea	Hammer, Drilling 4#
16	1ea	Pipe Wrench 14" Rigid Straight
17	12pr	Protective Glove, chemical resistant, 14" gauntlet, HD, flexible
18	2ea	Pipe Wrench 18" Rigid Straight
19	1ea	Pipe Wrench 24" Rigid Straight
20	lea	Hack Saw w/Blades, MF #48 + 6 18T Blades
21	lea	Come-Along, 2T, #10502
22	2ea	Rubber Sheet 2 x 2 x 1/8"
23	1ea	Chain, 30' x 1/2" Proof Coil w/1 grab hk & 1 slip hk, & 2 shakles
24	2ea	Turnbuckle 1/2" x 12" Forged J&J
25	2ea	Gas Mask, Organic Vapor, Acid Gas Ammonia #101 w/2 Cannister #2200
26	2ea	Protective Suit, Boots, Gloves & Goggles DIA 1037, 1035, ES 287, DIA #91
27	2ea	Fire Extinguisher, 4A60BC
28	2ea	Triangle Marker (set) HWT-3
29	lea	First Aid Kit for 25 persons
30	2ea	Bung Wrench, 10 way, non spark #DPW
31	2ea	Spigot, PVC lea 2" & lea 3/4" #1155
32	2ea	Eyewash, Isotonic
33	1ea	Drum pump

Kit B (continued) 6/86

<u>Item</u> #	<u>Ouantity</u>	<u>Description</u>
34	2ea	Broom, Push w/Handle \$108-18
35	2ea	Wrench, Adj Crescent 10" #77-10
36	4ea	Hazard Label Set 4 labels/set
37	1ea	Protective Hand Cream 6 oz.
38	2rl	Duct tape, 2" x 60 yd
39	lea	Non-sparking bryllium pipe wrench

A FEW ITEMS IN THIS KIT NEED INSPECTION OR REPLACEMENT ON A SCHEDULED BASIS:

ITEM B-27 MUST BE INSPECTED MONTHLY BY QUALIFIED PERSONNEL AND RECHARGED AS NECESSARY.

THE FIRE EXTINGUISHERS ARE DESIGNED FOR MOUNTING ON THE OUTSIDE OF THE KIT.

On the right side of the KIT there are two slotted screws. To mount items A-24, simply take the extinguishers out of the KIT, remove the bracket from the extinguisher box, remove the screw from the right side of the box, mount the bracket with the screw that you removed, and hang the fire extinguisher.

THIS KIT IS DESIGNED TO BE SIMPLE AND EASY TO USE. IT IS FOR USE IN EMERGENCIES ONLY. IT IS NOT POSSIBLE TO COVER EVERY SITUATION THAT MIGHT ARISE. MANY OF THE ITEMS ARE DESIGNED FOR SHORT TERM USE. THIS KIT IS NOT DESIGNED FOR SUSTAINED USE IN HAZARDOUS SITUATIONS WITH DANGEROUS MATERIALS.

WARNING! TOOLS AND EQUIPMENT IN THIS KIT WILL CAUSE SPARKS. NON-SPARKING TOOLS HAVE BEEN SPECIFICALLY IDENTIFIED..

Kit C

Packing List and Reorder Guide for VAN WATERS & ROGERS Type C Response Kit

TO REORDER ANY ITEM IN THE KIT SIMPLY IDENTIFY IT BY IDENTIFYING THE KIT TYPE (IN THIS CASE "C") AND THE NUMBER OF THE ITEM ON THE LIST. E.G., TO ORDER A NEW OXYGEN REGULATOR IDENTIFY IS AS C-3.

MAIL YOUR ORDER ALONG WITH YOUR PURCHASE ORDER NUMBER TO:

ROOT BROTHERS MFG. AND SUPPLY CO., INC. 10317 S. MICHIGAN AVE. CHICAGO, IL 60628

OR TELEPHONE YOUR ORDER TO (312) 264-5000

TYPE C EMERGENCY KIT CONSISTING OF:

Item #	Ouantity	Description
1	1 EA	2 x 2 x 4 ALUMINUM REMOVABLE TOP
2	2 EA	Oxygen masks w/tube
3	1 EA	OXYGEN REGULATOR DUAL MASK
4	1 EA	Lantern 6V anti-explosion #2206
5	2 EA	BATTERY ALKALINE 6V FOR LANTERN #529
6	2 EA	PROTECTIVE SUITS #1036/37
7	2 PR	PROTECTIVE GLOVES 14" GAUNTLET \$1814
8	2 PR	LEATHER GAUNTLET GLOVES
9	1 EA	Tool Box #20415
10	1 RL	COPPER TUBE, 50 ° x 3/8°, Type K
11	1 EA	FLARE TOOL KIT #155
12	1 EA	TUBING CUTTER #128
13	2 EA	CHLORINE WRENCHES
14	2 EA	YOKES AND ADAPTORS
15	2 EA	Tongue Valves

Kit C (continued)

Item #	Quantity	Description
16	2 EA	CYLINDER VALVE
17	50 EA	LEAD WASHERS
18	1 EA	WRENCH 10" ADJUSTABLE #7710 AAD
19	1 EA	WRENCH 6" ADJUSTABLE \$776 AAD
20	2 EA .	OXYGEN CYLINDER, TYPE E

A FEW ITEMS IN THIS KIT NEED INSPECTION OR REPLACEMENT ON A SCHEDULED BASIS:

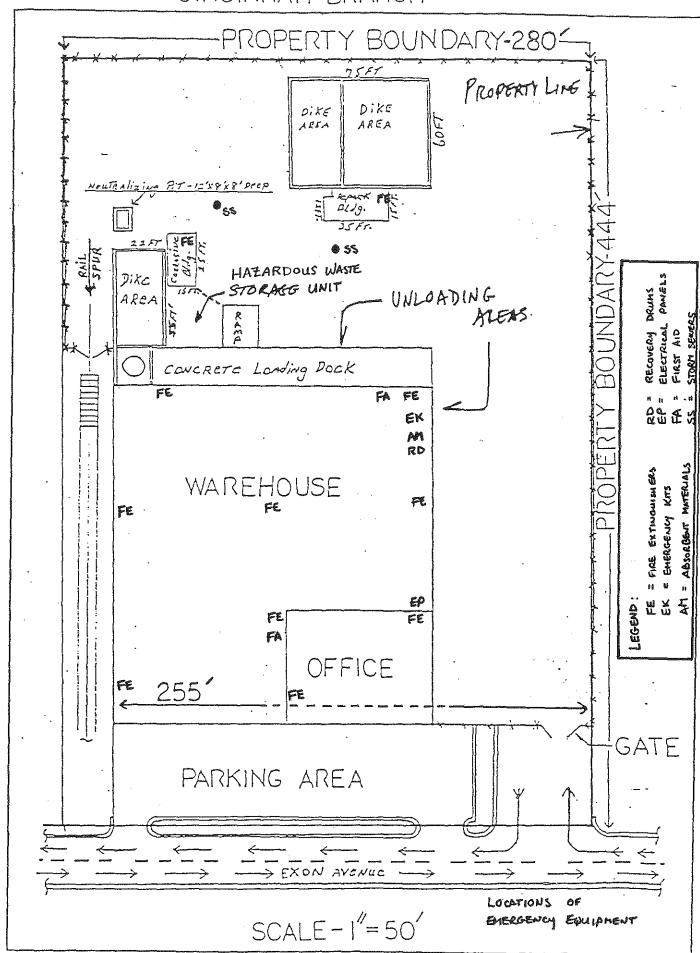
ITEM C-20 MUST BE INSPECTED MONTHLY BY QUALIFIED PERSONNEL AND RECHARGED AS NECESSARY.

THIS KIT IS DESIGNED TO BE SIMPLE AND EASY TO USE. IT IS FOR USE IN EMERGENCIES ONLY. IT IS NOT POSSIBLE TO COVER EVERY SITUATION THAT MIGHT ARISE. MANY OF THE ITEMS ARE DESIGNED FOR SHORT TERM USE. THIS KIT IS NOT DESIGNED FOR SUSTAINED USE IN HAZARDOUS SITUATIONS WITH DANGEROUS MATERIALS.

THE INSTRUCTIONS FOR INSTALLING THE REGULATOR (C-3), ON THE TANK (C-20) ARE CONTAINED IN THE BOX WITH THE REGULATOR. THE RUBBER TIE DOWN CORDS CAN BE USED TO HELP KEEP THE TANKS STABLE IN THE DESIRED POSITION WHILE IN USE.

THERE ARE REPLACEMENT CHLORINE VALVES AND YOKES. THEY DO NOT FIT ALL OF THE MANY TYPES OF POSSIBLE INSTALLATIONS. HOWEVER, THEY DO FIT THE MOST NORMAL SIZES.

WARNING! SOME TOOLS AND EQUIPMENT IN THIS KIT WILL CAUSE SPARKS. NON-SPARKING TOOLS HAVE BEEN SPECIFICALLY IDENTIFIED.



INSPECTION SCHEDULE Overall Facility

Area/Equipment	Specific Item		requency of spection
Container Storage	General area	Leaks, spills	Daily
Areas	Container placement and stacking	Aisle space	Weekly
	Sealing of Containers	Open bungs, lids	Weekly
	Container labels	Missing or wrong information	Weekly
	Base	Cracks, erosion	Daily
	Berm	Cracks, erosion	Daily
	Warning signs	Damaged, faded	Weekly
	Debris, refuse	Aesthetics	Weekly
	Accumulated liquid	Contamination	Daily and after rain or snow
Security Devices	Facility fence	Corrosion, damage	Weekly
	Main Gate	Damage, lock	Weekly
Loading and Unloading Areas	Surface areas	Spills, deterioration	Daily
	Dock bumpers	Damage	Daily
Safety and Emergency	Emergency shower and eye wash	Water pressure, leaks, drainage	Weekly
Equipment	Industrial absorbent and shovels	Out of stock	Monthly
	Overpack drums	Out of stock	Weekly
	Face shields	Broken or dirty	Monthly
	Chemical cartridge respirators with cartridges for organic solvents	Spent solvent, seals, dirt	Monthly / after each use

Area/Equipment	Specific Item	- 	requency of nspection
Safety and Emergency	Emergency alarm (air horn)	Charge, sound	Weekly
Equipment	Emergency Response Kits A, B, and/or C	Inventory and availability	As used
	Fire extinguishers	Recharging	Monthly / after each use
	Fire alarm system	Power failure	Per NFPA
	Telephone system	Power failure	Per NFPA
	Emergency lighting system	Battery failure	Per NFPA
	Portable pump	Power, clogging	Monthly
	First Aid equipment and supplies	Out of stock or inoperative	As used
	Protective clothing	Holes, wear and tear	As used
	Decontamination wash room	Water pressure, leaks, drainage	As used
	Fork lifts	Brakes, tires, horn, lights, hoist, tilt, fork	Daily
		steering, battery	

VII. EMERGENCY PLAN - When to Use this Plan

In the event of an emergency situation, the individual discovering the emergency is to immediately notify the Emergency Coordinator or his/her alternate. If neither is available the next alternate listed on the emergency phone number listing should be contacted. The Emergency Coordinator will determine if the situation warrants implementation of this plan.

The Emergency Coordinator has the authority to commit company resources and initiate requests for assistance to any local outside emergency services agency. The decision must be made by the Emergency Coordinator or the alternate whether a situation poses a threat to human health or safety to such an extent that evacuation of the facility is required. If evacuation is deemed appropriate, then implementation of this plan is appropriate. The following are situations that may require implementation of this plan:

- 1. An explosion anywhere at anytime at the facility.
- 2. A fire that, upon discovery, cannot be controlled by fire extinguishers.
- A release of a toxic or irritating gas.
- 4. A spill of a hazardous liquid that threatens to escape off-site by way of a sewer or overland flow.
- 5. A release of a material that creates, or a situation that results in, obnoxious fumes.

In all emergency situations, the Emergency Coordinator should assess the nature of the emergency in the following order:

- 1. Is there a need for evacuation? If yes, then proceed to number 2; if no, then proceed to number 8.
- 2. Issue the signal to evacuate and implement the Emergency/Contingency Plan.
- Account for all personnel.
- 4. Locate and rescue missing personnel.
- 5. See that the injured are attended to.
- 6. Assess the need for outside assistance and call for help if necessary.

- 7. Assess actions that may be taken safely by in-house emergency response teams to help contain the emergency until professional help arrives.
- 8. Implement appropriate emergency procedures.

Specific procedures to be followed during selected emergency situations are detailed in the sections that follow.

Remember: Buildings, equipment, and inventory can be replaced - People cannot. Do not attempt any emergency procedure that puts a person's health or safety in jeopardy !!!

VIII. EMERGENCY PLAN - EVACUATION of the BRANCH

The facility evacuation plan is to be implemented when it becomes necessary to evacuate the facility due to an emergency which threatens human health and safety. The signal for evacuation should be given by the Emergency Coordinator or his/her alternate. Evacuation should always be carried-out so that employees are not exposed to the emergency situation. Evacuation may be necessary to prevent personal injury because of explosions, fires, large spills, toxic gas releases, severe weather or bomb threats.

Whenever there is an imminent or actual emergency situation within the facility requiring evacuation of the premises, the Emergency Coordinator or his/her alternate will immediately:

- 1. Notify all building occupants by sounding the branch alarm system. THE BRANCH ALARM SYSTEM IS A FIRE ALARM BELL. EVACUATION COULD ALSO BE INITIATED This could be by voice, telephone, or by sounding an ALTERNATE alarm (AN AIR HORN).
- 2. Assess the nature of the emergency and consider contacting outside emergency services agencies.

Personnel operating electrical equipment at the time of the alarm will turn off and unplug the machine if possible. Vehicle and Lift truck operators will clear their machines from all aisles and exits if time permits.

A. EMERGENCY RESPONSE TEAMS RESPONSIBILITIES

Assembly Point Leader(s)

The Assembly Point Leader(s) should be the last to exit and should turn off electricity at the main switch for the building they are in and close doors and windows before they exit. This should be done only if it is safe to do so.

All personnel with no assigned duties will evacuate by the nearest marked exit and proceed to the Assembly Point via the safest route, reporting there to the Assembly Point Leader. The Assembly Point Leader will take a head count to insure that all non-essential personnel have evacuated the facility. If an individual is unaccounted for at the assembly point, the assembly point leader will notify the Emergency Coordinator. The Emergency Coordinator will assess the situation and initiate actions to locate the missing employee. A list of all persons employed at the Branch should be maintained (kept very current)

at the end of this section. After the emergency is resolved, the Assembly Point Leader, after consultation with the Emergency Coordinator, will release personnel to return to work.

First Aid Team(s)

First Aid Team Leaders should take a First-Aid Kit with them to the assembly point and be prepared to assist the injured. Depending upon the size of the Branch, it may be advisable to have one first aid team stationed at the assembly point that is charged with administering first aid and calling for outside medical assistance when necessary. Another first aid team should be in charge of rescuing missing personnel. This team should have a stretcher and personal protective gear with them, and operate under the direction of the Emergency Coordinator.

Fire/Spill Control Team(s)

Fire/Spill Control Teams should assemble at the evacuation point so that all personnel can be accounted for before any emergency procedures are begun. If it is possible to do so in a safe manner, members of these teams should try to bring with them a fire extinguisher and personal protective equipment. Once assembled, these teams should await instructions from the Emergency Coordinator. There should be no attempt at fire fighting or spill control without first receiving instructions from the Emergency Coordinator.

Further action will depend on the nature of the emergency and will be taken under the direction of the Emergency Coordinator.

B. EVACUATION ROUTES AND ASSEMBLY POINT

Evacuation route diagrams must be mounted at key locations throughout the Branch. The diagrams must be easy to read and must identify the location of each diagram ("you are here") and the exits nearest the diagram. The diagram must also show the location of the assembly point and the best route to get there.

Evacuation routes and the assembly point for this Branch are shown on the diagrams at the end of this section.

Van Waters & Rogers Inc.

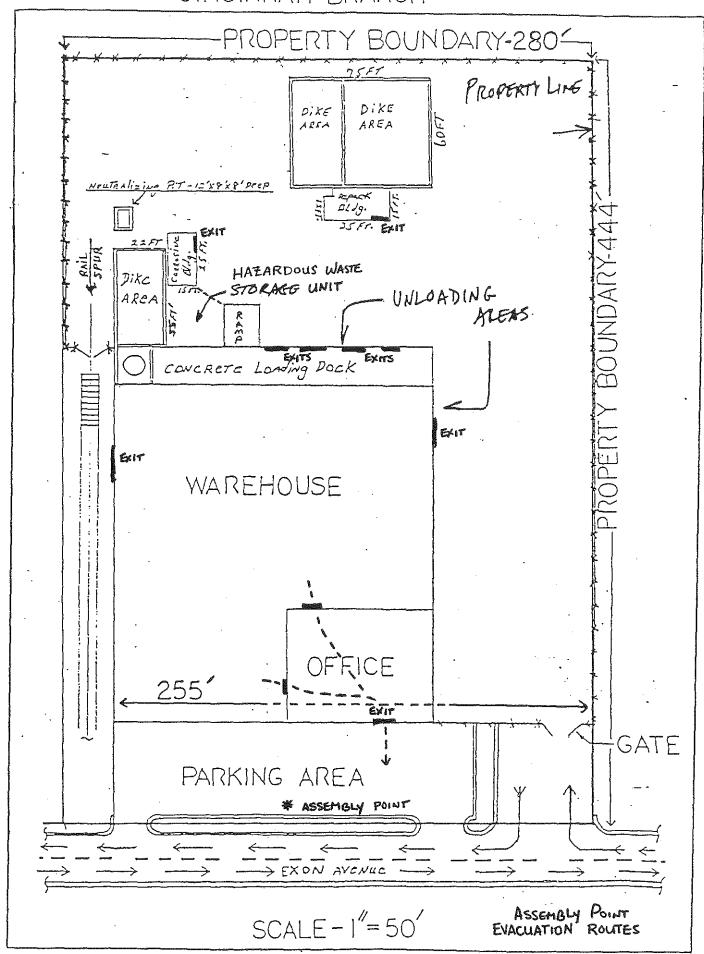
Branch Personnel List

OFFICE

WAREHOUSE

REPACK

TRUCK DRIVERS



IX. EMERGENCY PLAN - FIRE

It is very important that all employees never forget that fire fighting requires PROFESSIONAL action. The flammable materials at this Branch can be explosive and extremely dangerous in a fire. Employees discovering a fire are instructed to always alert the Emergency Coordinator first, and then try to control/contain the fire, but only if it is safe to do so.

In the event of a fire, branch personnel will follow this procedure:

A. EMERGENCY PROCEDURES:

1. Alert the Emergency Coordinator and give the following information:

Your name

Location of the fire

Need for fire truck, ambulance, police or other emergency equipment.

The Emergency Coordinator will call for assistance from the appropriate local emergency services agencies if he/she deems such assistance to be required.

- 2. If in the judgment of the Emergency Coordinator the fire situation requires evacuation, he/she will sound the alarm either verbally, telephone page, or predesignated alarm.
 - a. Upon hearing the alarm, all personnel are to leave the premises by the nearest safe exit and report to the Assembly Point Leader(s).
 - b. Assembly Point Leaders should turn off main power switches in their buildings and close doors and windows if there is time to do so safely.
 - c. Vehicle and fork truck operators will clear their equipment from the aisles and exits and shut off engines.
 - d. First Aid Teams and Fire/Spill Control Teams should bring emergency equipment to the assembly point area and await instructions from the team leaders and the Emergency Coordinators.

- 3. If evacuation is not necessary, First Aid Teams should be alerted and be prepared to assist in the emergency. Fire Control Teams should be assembled and await instructions from the Emergency Coordinator.
- 4. The Emergency Coordinator must assess the various hazards a fire creates and decide how to minimize the risk presented by each one. Consideration must be given to:
 - a. Release of fumes and the possibility of the need to evacuate surrounding areas.
 - b. Potential for explosions and flying debris which could spread the fire off-site or to unaffected areas on-site, and seriously threaten human health and safety.
 - c. The release of other hazardous materials from nearby containers.
 - d. Fire fighting residues which may need to be contained and dealt with as hazardous materials or hazardous waste.
- 5. The Emergency Coordinator must take the necessary measures to attempt to contain and control the fire. These measures include:
 - a. Control ignition sources;
 - b. Determine the chemical and physical properties of the material that is burning;
 - c. Removing other as yet unaffected hazardous materials from the area;
 - d. Shutting down operations, and protecting those areas and items that cannot be moved to safety and that could become dangerous if the fire spreads there;
 - e. Assess the ability of Fire Control Teams to safely contain and isolate the burning material, considering the properties of the material on fire, the fire fighting equipment available, and the intensity of the blaze;
 - f. Assess the ability of Fire Control Teams to safely put out the fire, considering the properties of the material on fire, the fire fighting equipment available, and the intensity of the blaze.

- 6. The Emergency Coordinator must work in conjunction with the local fire department when a fire is too large for the Fire/Spill Control Team(s) to handle. The following information should be made available to the arriving fire department and other emergency assistance teams:
 - a. Type of material involved;
 - b. Other chemicals within the vicinity of the fire;
 - c. Measures already taken to control the emergency.
- 7. The Emergency Coordinator must provide for treating, storing or disposing of recovered wastes, contaminated soils or water, or any other debris resulting from a fire, release, or explosion at the facility.

 PRECAUTIONS MUST BE TAKEN TO AVOID MIXING INCOMPATIBLE WASTES AND TO PREVENT WASTES FROM CONTACTING INCOMPATIBLE MATERIALS.
- 8. All equipment used during the emergency must be cleaned and made fit for use or replaced immediately in order to be prepared for another emergency. DECONTAMINATION OF EQUIPMENT SHALL FOLLOW THE PROCEDURES SPECIFIED IN THE VAN WATERS & ROGERS INC. OPERATING STANDARDS MANUAL, SECTION 6.1, EXHIBIT 4.

B. FLAMMABLE and COMBUSTIBLE MATERIAL DESCRIPTIONS:

Generally, the materials at the Branch that pose a fire hazard may be broken into two categories. The first is combustible material such as cardboard packaging, wooden boxes and pallets, and office refuse (paper). The second is solid and liquid flammable chemicals. The most common flammable chemicals handled at the Branch are liquids and are listed below.

The two categories of materials require different fire control strategies. A fire involving the first category of material is usually controllable if discovered early-on. The inhouse Fire Control teams using fire extinguishers and/or on-site fire hoses can contain/control these types of fires if they are not too large. A fire involving the second category of material is extremely dangerous and requires professional action. The following discussions concern actions to be taken (or avoided) during fires involving flammable chemicals.

The types of flammable and combustible materials handled at the Branch will vary from time to time depending upon the current status of the market for industrial chemicals. Generally, the

materials will be liquids stored in containers (55 gallon drums) and bulk tanks (anywhere from 3,000 to 10,000 gallons capacity). Also, the materials generally will be flammable (that is, their flash points are below 100 degrees F) as opposed to combustible, and may or may not be soluble in water. Examples of flammable liquids at the Branch are:

Flammable Liquids (soluble in water)

Acetone Ethanol IPA (Isopropyl alcohol) Methyl alcohol (Methanol)

Flammable Liquids (insoluble in water)

MEK (Methyl ethyl ketone) Mineral Spirits Naphtha Toluene Xylene

Flammable liquids and mixtures that contain these flammable compounds are extreme fire hazards. And worse, if sealed containers of these liquids are in a fire, once the container becomes hot enough it may explode violently. Be sure to maintain a safe distance between the Fire Control Teams and a fire involving these chemicals.

Flammable liquids are volatile, meaning they release vapors which are also highly flammable, and when inhaled in large doses, they also can be toxic. The vapors are generally heavier than air and will tend to be carried downwind along the ground for some distance before being dispersed. Be sure to eliminate all sources of ignition downwind of a release of these materials.

Flammable liquids that are soluble in water may be extinguished with water and/or other types of fire extinguishing methods. Flooding an area where water soluble flammables are burning would be a very effective fire control technique. One should also consider diking around a burning area to prevent the spread of flames should containers of flammable liquids fail during the fire and release their contents.

Flammable liquids that are insoluble in water also may be extinguished with water; however, flammable liquids that are insoluble in water are usually lighter than water and may tend to be carried along on the water while still burning. Massive amounts of water must be used to smother the flaming liquid. Unless massive volumes of water are used, it might be better to use water to keep surrounding buildings and inventory from

catching on fire instead of trying to douse the actual fire. Foams, dry chemicals, halon, or CO2 fire extinguishers work well in extinguishing fires involving flammable liquids. Again, as mentioned above, it might be a good idea to dike the area to prevent the spread of flames if containers of flammable liquids fail during the fire.

During a fire, flames and explosions may not be the only dangerous conditions present. Depending upon where the fire is and what material is affected by the fire, there may also be toxic or irritating fumes and smoke being generated by the fire. The Emergency Coordinator must be aware of this possibility and make sure in-house fire/spill control teams, spectators, and arriving fire departments are informed of this possibility and properly protected.

Unless a fire is restricted in some way, such as being small, or not involving or being near extremely flammable materials, or is somehow isolated so that the fire may be allowed to burn itself out if necessary, then it is probably advisable to call the local fire department for professional help. Fire prevention is the job of Van Waters and Rogers Inc. employees. Fire fighting is the job of fire department employees and other emergency services professionals.

X. EMERGENCY PLAN - CHEMICAL SPILLS

Chemical spill control is one of the fields of expertise of Van Waters and Rogers Inc. The company has been involved with hazardous materials for a number of years and has gained a thorough knowledge of the physical and chemical properties of the products handled at this Branch. The Branch is equipped to contain and clean-up spills of all types of hazardous materials.

Of greatest concern is a spill of a large amount of liquid hazardous material. Such spills are most likely to occur at the tank farm where bulk tanks and tank trucks are located. Large spills are less likely to occur in container storage areas or the repack areas. However, the spill of even one container in the wrong place, such as over an open stormwater drain, can be as disastrous as a large spill. Regardless of the size of the spill, the first goal during an emergency response to the spill is to confine the spill on-site. No spilled material or residue of a spilled material should be allowed to migrate beyond our property boundaries (up, down, or sideways).

DO NOT WASH DOWN ANY SPILL WITHOUT FIRST CONTACTING THE REGIONAL OR HOME OFFICE OPERATIONS STAFF.

Employees discovering a spill are instructed to always alert the Emergency Coordinator first, then try to control/contain the spill, but only if it is safe to do so.

In the event of a spill Branch personnel will follow this procedure:

A. EMERGENCY PROCEDURES:

1. Alert the Emergency Coordinator and give the following information:

Your name;

Location of the spill;

Need for fire truck, ambulance, police or other emergency equipment.

The Emergency Coordinator will call for assistance from the appropriate local emergency services agencies.

- 2. If in the judgment of the Emergency Coordinator the spill situation requires evacuation, he/she will sound the alarm either verbally, telephone page, or predesignated alarm.
 - a. Upon hearing the alarm, all personnel are to leave the premises by the nearest safe exit and report to the Assembly Point Leader(s).
 - b. Assembly Point Leaders should turn off main power switches in their buildings and close doors and windows if there is time to do so safely.
 - c. Vehicle and fork truck operators will clear their equipment from the aisles and exits and shut off engines.
 - d. First Aid Teams and Fire/Spill Control Teams should bring emergency equipment to the assembly point area and await instructions from the team leaders and the Emergency Coordinators.
 - 3. If evacuation is not necessary, First Aid Teams should be alerted and be prepared to assist in the emergency. Spill Control Teams should be assembled and await instructions from the Emergency Coordinator.
 - 4. The Emergency Coordinator must assess the various hazards a spill creates and decide how to minimize the risk presented by each one. Consideration must be given to:
 - a. Release of fumes and the possibility of the need to evacuate surrounding areas;
 - b. Potential for fire or explosions if the spilled material is flammable;
 - c. The release of irritating or obnoxious vapors if the spilled material has toxic properties;

dearbyheonedenersof Anderheapardousanaferiansompemible materials to commingle and react;

e. The potential for spilled liquids to run off-site and contaminate surface waters and soils, or for liquids to contaminate groundwater/drinking water sources;

- f. Spill control residues which may need to be contained and dealt with as hazardous materials or hazardous waste.
- 5. The Emergency Coordinator must take the necessary measures to attempt to contain and control the spill.

 These measures include:
 - a. Stopping the source of the leak or spill;
 - Determine the chemical and physical properties of the material that has been spilled;
 - c. Controlling ignition sources;
 - d. Removing other as yet unaffected hazardous materials from the area;
 - e. Shutting down operations, and protecting those areas and items that cannot be moved to safety and that could become dangerous if the spill spreads there;
 - f. Assess the ability of Spill Control Teams to safely contain and isolate the spilled material, considering the properties of the material, the spill control equipment available, and the size of the spill;
 - g. Assess the ability of Spill Control Teams to safely clean-up the spill, considering the properties of the material spilled, the spill control equipment available, and the size of the spill.
- 6. The Emergency Coordinator must work in conjunction with the local emergency services department when a spill is too large for the Fire/Spill Control Team(s) to handle. The following information should be made available to the arriving emergency assistance teams:
 - Type of material involved;
 - b. Other chemicals within the vicinity of the spill;
 - c. Measures already taken to control the emergency.
- 7. The Emergency Coordinator must provide for treating, storing or disposing of recovered wastes, contaminated soils or water, or any other debris resulting from a spill at the facility. PRECAUTIONS MUST BE TAKEN TO AVOID MIXING INCOMPATIBLE WASTES AND TO PREVENT WASTES

FROM CONTACTING INCOMPATIBLE MATERIALS.

8. All equipment used during the emergency must be cleaned and made fit for use or replaced immediately in order to be prepared for another emergency. DECONTAMINATION OF EQUIPMENT SHALL FOLLOW THE PROCEDURES SPECIFIED IN THE VAN WATERS & ROGERS INC. OPERATING STANDARDS MANUAL, SECTION 6.1, EXHIBIT 4.

B. LIQUID HAZARDOUS MATERIALS DESCRIPTIONS

The types of liquid hazardous materials handled at the branch may be classified into six basic categories. The categories are chlorinated organics, corrosives, flammables, oxidizers, poisons, and hazardous wastes.

1. Chlorinated organics:

Chlorinated organic chemicals are toxic to varying degrees, and may cause skin irritation or rashes to develop if spilled material comes into contact with the skin. The majority of the chlorinated organics are non-flammable. Vapors from these chemicals can cause eye irritation, lung irritation, and dizziness. Examples of chlorinated organics at this Branch are:

Methylene chloride Perchloroethylene (tetrachloroethylene) 1,1,1 trichloroethane Trichloroethylene

The area of spilled chlorinated organics should be diked using inert adsorbents or sand. Pools of spilled material then may be pumped into a recovery drum. Liquids that cannot be recovered by pumping should be made into a solid using inert adsorbent material and then shoveled into a recovery drum. Contaminated soils should be excavated and contained in recovery drums. Contaminated equipment should be cleaned and the cleaning residue contained in recovery drums. Persons coming into contact with the spilled material should remove all contaminated clothing and wash thoroughly with soap and water. Obtain medical attention as soon as possible.

2. Corrosives:

If corrosive materials come into contact with other materials such as flammables and oxidizers, violent reactions, fires or eruptions may occur. Spills may liberate large volumes of fumes which may be toxic and can cause eye, skin and respiratory injury. Personnel must evacuate areas with fume

clouds and avoid contact with this material. Most corrosives generate heat when contacted by water and may erupt and violently fume. Examples of corrosive materials handled at the Branch include:

Acetic acid
Ferric chloride
Hydrochloric acid (Muriatic acid)
Nitric acid (<40%)
Phosphoric acid
Sodium hydroxide (Caustic soda)
Sulfuric acid

Spills should be confined if possible to prevent mixing with other materials and to prevent possible contamination of ground water and property. Corrosive spills should be neutralized; acids with soda ash, and bases (caustics) with boric acid or a dilute hydrochloric acid solution. Sand may be used to form a dike to confine large spills. Persons coming into contact with these materials should wash with water for at least 15 minutes after removing contaminated clothing and shoes. Obtain medical attention as soon as possible.

3. Flammables:

Flammable spills release vapors which will ignite when contacted with an open flame, sparks or a hot surface. Flammable vapors are often heavier than air and will tend to spread along the ground until dispersed by the wind. Vapor clouds when ignited burn rapidly spreading flames back to the source of the spill. Contact with corrosive materials may cause ignition and must be prevented. Action should be taken to remove all possible ignition sources in the area of flammable vapor clouds emanating from a liquid spill. The types of flammable materials at this Branch are:

Acetone
Ethanol
Isopropyl alcohol
Methanol
Methyl ethyl ketone
Toluene
Xylene

Spill control, clean-up, and personal safety procedures are similar to those mentioned for chlorinated organic chemicals. Be constantly on guard against possible sources of ignition.

4. Oxidizers:

Oxidizers are chemicals which yield oxygen readily to stimulate burning of combustible materials. If spilled, they should be kept from contacting flammable liquids and other combustible materials. Oxidizers contain labile oxygen and when heated or shocked, can decompose with explosive force. If any of these materials are involved in a fire or a large spill, personnel should be evacuated from the scene. Examples include:

Ammonium nitrate
Calcium hypochlorite
Hydrogen peroxide
Nitric acid, fuming
Potassium permanganate
Sodium nitrate
Sodium nitrite

Oxidizers will eventually decompose becoming, essentially, harmless compounds. In the event of a spill, try and contain the material with a dike made of sand to keep the oxidizer from coming into contact with any combustible material. After the oxidizer has finished decomposing, it may be collected and put into recovery drums. Personnel coming into contact with an oxidizing material should be flushed with massive amounts of water and obtain medical assistance as soon as possible.

5. Poisons (pesticides):

Most of the poisons handled at the Branch are pesticides. Some poisons, those which are cyanide based, are extremely toxic and very small quantities can cause immediate illness or death. The Material Safety Data Sheet on the poison involved in the emergency should be consulted to determine appropriate emergency procedures. Personnel should be evacuated from the area (evacuate up-wind of the spill) if the spill is large and the poison is a cyanide based poison. Examples of poisons which may be at this Branch follow:

Arsenic based formulations Carbamates Cyanide based formulations Mercury based formulations Methyl bromide Organochlorines Organophosphorus compounds

If possible, <u>using SCBA safety gear</u>, confine the spread or flow of materials to the immediate area using sand and inert adsorbents. Consult the MSDS on the chemical to determine the appropriate method for neutralizing the poison and cleaning-up the residue. Personnel coming into contact with this

material must remove contaminated clothing, wash thoroughly with soap and water, and obtain immediate medical attention.

6. Hazardous wastes:

Hazardous wastes generally exhibit properties similar to the hazardous materials handled at the Branch. The hazardous characteristics of the wastes are those of ignitibility (flammable) and/or toxicity. Hazardous wastes will usually be in containers (55 gallon drums), rarely if ever in bulk, and they will either be in transit through the facility (on-site for only several days) or in storage in a specially designed storage facility with a secondary containment system. The types of hazardous wastes that may be present are:

EPA Waste Code Hazardous Characteristic

F001	(Toxic)
F002	(Toxic)
F003	(Toxic and ignitable)
F005	(Ignitable)
D001	(Ignitable)

Spills of hazardous wastes should be contained using sand and other inert adsorbents. Clean-up of the spill should be conducted in the same manner described above for their non-waste equivalents. Persons coming into contact with a spilled hazardous waste should remove contaminated clothing and wash thoroughly with soap and water. Obtain medical attention as soon as possible.

The release of a toxic gas is a very serious emergency situation. Most gases are very dangerous because they are not as easily detected as a fire or a spill. The first indication of a release is often through detection of its odor. Toxic gases are easily spread by air currents once they are released, and mere breathing in the area of a release increases the risk of exposure. Many gases are extremely toxic. By the time a release of a toxic gas is detected, it often means several people have already inadvertently been exposed to it.

Controlling and containing the release of a toxic gas requires a quick, yet cautious, response. Proper safety gear is an absolute must because stopping the release often means getting right into the thickest part of the toxic gas cloud. The two most important things to consider during an emergency involving the release of a toxic gas are: (1) minimizing to the greatest possible extent, the number of people that will be exposed to the cloud of released toxic gas and, (2) getting the necessary personnel properly outfitted to stop the release. The Material Safety Data Sheet on the toxic gas involved in the emergency should be consulted for information on safety and proper procedures for control.

A. EMERGENCY PROCEDURES:

1. Alert the Emergency Coordinator and give the following information:

Your name;

Location of the release;

Need for fire truck, ambulance, police or other emergency equipment.

The Emergency Coordinator will call for assistance from the appropriate local emergency services agencies.

- 2. If in the judgment of the Emergency Coordinator the release situation requires evacuation, he/she will sound the alarm either verbally, telephone page, or pre- designated alarm. An added consideration when dealing with the release of a toxic gas is which way is the wind blowing? Be sure to keep this in mind when calling for an evacuation and setting up first aid stations.
 - a. Upon hearing the alarm, all personnel are to leave the premises by the nearest safe exit and report

to the Assembly Point Leader(s);

- b. Assembly Point Leaders should turn off main power switches in their buildings and close doors and windows if there is time to do so safely;
- c. Vehicle and fork truck operators will clear their equipment from the aisles and exits and shut off engines.
- d. First Aid Teams and Fire/Spill Control Teams should bring emergency equipment to the assembly point area and await instructions from the team leaders and the Emergency Coordinators.
- 3. If evacuation is not necessary, First Aid Teams should be alerted and be prepared to assist in the emergency. Spill Control Teams should be assembled and await instructions from the Emergency Coordinator.
- 4. The Emergency Coordinator must assess the various hazards a release of toxic gases creates and decide how to minimize the risk presented by each one.

 Consideration must be given to:
 - a. Release of a highly toxic gas and the possibility of the need to evacuate surrounding areas which way is the wind blowing?
 - b. Potential for fire or explosions if the released gas is flammable;

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- d. The release of other hazardous materials from nearby containers if a fire is started, and the potential for incompatible materials to commingle and react;
- e. The potential for the released gas to contaminate surface waters and soils, or for gases to contaminate groundwater/drinking water sources;
- f. Residues which may need to be contained and dealt with as hazardous materials or hazardous waste.
- 5. The Emergency Coordinator must take the necessary measures to attempt to contain and control the release. These measures include:
 - a. Stopping the source of the release;

- b. Determine the chemical and physical properties of the gas that has been released;
- c. Controlling ignition sources;
- d. Removing other as yet unaffected hazardous materials from the area;
- e. Shutting down operations, and protecting those areas and items that cannot be moved to safety and that could become dangerous if the release spreads there;
- f. Assess the ability of Spill Control Teams to safely contain and isolate the released gas, considering the properties of the gas, the control equipment available, and the size of the release;
- g. Assess the ability of Spill Control Teams to safely clean-up the release, considering the properties of the released gas, the control equipment available, and the size of the release.
- 6. The Emergency Coordinator must work in conjunction with the local emergency services department when a release is too large for the Fire/Spill Control Team(s) to handle. The following information should be made available to the arriving emergency assistance teams:
 - a. Type of gas released (toxicity and flammability);
 - Other chemicals within the vicinity of the release;
 - c. Measures already taken to control the emergency.
- 7. The Emergency Coordinator must provide for treating, storing or disposing of recovered wastes, contaminated soils or water, or any other debris resulting from a release at the facility. PRECAUTIONS MUST BE TAKEN TO AVOID MIXING INCOMPATIBLE WASTES AND TO PREVENT WASTES FROM CONTACTING INCOMPATIBLE MATERIALS.
- 8. All equipment used during the emergency must be cleaned and made fit for use or replaced immediately in order to be prepared for another emergency. DECONTAMINATION OF EQUIPMENT SHALL FOLLOW THE PROCEDURES SPECIFIED IN THE VAN WATERS & ROGERS INC. OPERATING STANDARDS MANUAL, SECTION 6.1, EXHIBIT 4.

B. TOXIC GAS DESCRIPTIONS:

Listed below are the general classifications for the toxic gases that may be present at the Branch. As described, the gases are usually toxic to varying degrees, but some are both toxic and flammable.

1. Toxic gases - non-flammable

Non-flammable gases can cause injury or asphyxiation of persons entering the cloud. Tanks containing non- flammable gases can rupture violently when exposed to intense fire conditions because the gas will expand rapidly when heated. Always consult the MSDS on the gas to determine proper safety and control procedures. It is imperative when dealing with a release of toxic gas that full protective equipment be worn by spill control team members. Everyone else must be evacuated from the immediate area (up-wind of the release). Spectators should be kept as far away from the area as possible. Be sure to clearly communicate the nature of the hazard to any local emergency services agencies that you have called for assistance. Examples of toxic gases are:

Anhydrous ammonia Chlorine Sulfur dioxide

Emergency response personnel must wear full protective gear when responding to a release of a toxic gas. The safety gear should include SCBA and any other safety clothing appropriate for the type of gas released. If, and only if, appropriate safety gear is available, an attempt to stop the release should be made. If stopping the release is not possible, then consideration must be given to evacuation of surrounding areas. This should really be considered before attempting to stop the release, and it should include consideration of weather conditions and the nature of the released gas. Evacuation of surrounding areas must be done in conjunction with local emergency services officials. Persons coming into contact with a toxic gas should be removed to fresh air and given professional medical assistance as soon as possible.

2. Toxic gases - flammable

Flammable gases usually ignite immediately upon rupture of their container. Sometimes this is good because the release is easily detectable and the toxicity of the gas is significantly reduced. If a fire does not start immediately, the gas cloud may be easily ignited and the entire cloud will rapidly combust. Examples of flammable toxic gases are:

Hydrogen sulfide Propane

Propylene

Fires from leaks in containers that cannot be shut off should be allowed to burn. The container and any nearby containers should be kept cool while the flammable gas burns itself out. There probably will be very little to decontaminate after an emergency involving a flammable gas. The Emergency Coordinator should make sure all traces of the gas have been removed from confined areas before allowing clean-up crews to work in the area.

IX. EMERGENCY PLAN - STORMS AND FLOODS

In the event of a severe storm or tornado, all Branch personnel should take shelter in an interior hallway or room away from windows. In the case of floods, or more likely, high water due to heavy rains, the major precaution is to shut off the main power panel. Inventory must be looked to and moved if necessary to protect it.

Hazardous wastes, if present, require particular attention. If a flood condition is predicted (5 to 7 inches within a 24 hour period) the Emergency Coordinator or his alternate will prepare for and execute the following steps:

- 1. A typical warning time for a 100-year flood is three hours. Within that time period, all hazardous wastes that may be threatened must be moved to a new location that will be above the expected high water level. It may be sufficient to load the hazardous wastes into an empty company trailer. This would raise the wastes about four feet off the ground.
- 2. If the wastes need to be removed from the site, normally, company owned transport would be used if available. If not, a fully licensed hazardous waste transporter may be utilized. Branch manpower to load the waste into the transport vehicles should be made immediately available. Manifests must be prepared and accompany the waste to a permitted TSDF.
- 3. In the event of a flood threat after normal working hours, the Emergency Coordinator may locate and call in sufficient manpower to the Branch. This must be done within the 3 hour warning period. The Emergency Coordinator may assist in the loading and driving tasks himself/herself if necessary.
- 4. The National Weather Advisory broadcasts should be followed for guidance under these circumstances. The Branch should have available a battery powered radio to insure reception of weather information if normal electrical power is interrupted.

XIII. EMERGENCY PLAN - BOMB THREAT

A. THE BOMB THREAT:

In the event of a bomb threat phone call, the most important thing to do is to try to keep the caller on the telephone so that the call may be traced. As ridiculous as it may seem, and as hard as it is to do, remain calm and try to obtain the following information:

- Note the time of the call;
- Listen for background noises such as music, people talking;
- 3. Ask for the location of the bomb and the time it is supposed to detonate.
- 4. Ask what kind of bomb it is? What does it look like?
- 5. Ask what kind of package it is in?
- 6. Does the voice sound drugged or drunk? What sex does the voice sound like and how old does it sound?
- 7. Ask for the caller's name and address.

These questions sometimes yield valuable information and will detain the caller so a trace may be attempted. To trace a call, alert as quickly as possible another employee to call the telephone company on another line while the caller is detained on the first line. Speed is important because it may take several minutes to trace a call. Call the operator and explain the situation. At the same time, have another employee call the Emergency Coordinator. The Emergency Coordinator should call the police to advise them of the threat and obtain their assistance.

B. EMERGENCY PROCEDURES:

- 1. DON'T TOUCH, HANDLE, OR MOVE ANY SUSPICIOUS OBJECT!!
- Order an evacuation of the facility;
- 3. Wait for the police to arrive and let them make a search for the bomb.

XIV. EMERGENCY PLAN - HAZARDOUS WASTE EMERGENCIES

Although it is recognized that the threat posed by an emergency involving hazardous waste on the branch premises is chemically equivalent to that involving virgin materials of the same chemical or mixture of chemicals, some different emergency procedures do apply. The most likely emergencies involving hazardous waste will be those of a release or fire. The Emergency Coordinator must try to determine by observation, branch records, or analysis (time permitting), the identity of the material involved, the amount, and the potential impact of the release or fire on human health and the environment. The Emergency Coordinator must also determine whether facility personnel are properly equipped and trained to handle the situation or if it is necessary to call in outside contractors or emergency assistance agencies.

If this is a Branch permitted to store hazardous wastes, the secondary containment area will hold materials released from drums during storage. Leaks into the containment dike must be reported to the Emergency Coordinator immediately so that clean-up activities can begin. Liquid materials can be removed and contained in a recovery drum by use of a portable pump. Adsorbent material used to collect the spill may be shoveled into the recovery drum. Spills confined to the secondary containment area are a minor problem. Spills or leaks that occur in satellite accumulation areas, transportation vehicles, or spills that escape from the secondary containment area are potentially very serious emergency situations.

Because the facility normally deals only with containerized wastes, the amount of waste which has potential to be released is relatively small.

In the event the Contingency Plan is implemented, a written report must be filed with authorities in accordance with 40 CFR Part 264.56(J) before normal activities are resumed. The requirements of 40 CFR Part 264.56(J) are listed at the end of the section on reporting.

A. EMERGENCY PROCEDURES:

1. Alert the Emergency Coordinator and give the following information:

Your name;

Location of the fire or spill;

Need for fire truck, ambulance, police or other emergency equipment.

The Emergency Coordinator will call for assistance from the appropriate local emergency services agencies.

- 2. If in the judgment of the Emergency Coordinator the fire or spill situation requires evacuation, he/she will sound the alarm either verbally, telephone page, or pre-designated alarm.
 - a. Upon hearing the alarm, all personnel are to leave the premises by the nearest safe exit and report to the Assembly Point Leader(s).
 - b. Assembly Point Leaders should turn off main power switches in their buildings and close doors and windows if there is time to do so safely.
 - c. Vehicle and fork truck operators will clear their equipment from the aisles and exits and shut off engines.
- 3. First Aid Teams should assemble at the assembly point with first aid equipment and await instructions from the First Aid Team Leader(s) and the Emergency Coordinator.
- 4. Spill Control Teams should assemble at the assembly point with fire or spill control equipment and await instructions from the Fire/Spill Control Team Leader(s) and the Emergency Coordinator.
- 5. The Emergency Coordinator must assess the various hazards a fire or spill creates and decide how to minimize the risk presented by each one. Consideration must be given to:
 - a. Release of fumes and the possibility of the need to evacuate surrounding areas;
 - b. Potential for fire or explosions if the material in question is flammable;
 - c. The release of irritating or obnoxious vapors if the material has toxic properties;
 - d. The release of other hazardous materials from nearby containers. And the potential for incompatible materials to commingle and react;
 - e. The potential for spilled liquids to run off-site and contaminate surface waters and soils, or for liquids to contaminate groundwater/drinking water sources;

- f. Spill and fire control residues which may need to be contained and dealt with as hazardous materials or hazardous waste.
- 6. The Emergency Coordinator must take the necessary measures to attempt to contain and control the fire and/or spill. These measures include:
 - a. Determine the chemical and physical properties of the material that has been spilled or is on fire;
 - b. Stopping the source of the leak or spill or fire;
 - c. Controlling ignition sources;
 - d. Removing other as yet unaffected hazardous materials from the area;
 - e. Shutting down operations, and protecting those areas and items that cannot be moved to safety and that could become dangerous if the spill or fire spreads there;
 - f. Assess the ability of Fire/Spill Control Teams to safely contain and isolate the material, considering the properties of the material, the fire/spill control equipment available, and the size of the fire or spill;
 - g. Assess the ability of Fire/Spill Control Teams to safely clean-up fire and spill residues, considering the properties of the material, the fire and spill control equipment available, and the size of the fire or spill.
- 7. The Emergency Coordinator must work in conjunction with the local emergency services department when a fire or spill is too large for the Fire/Spill Control Team(s) to handle. The following information should be made available to the arriving emergency assistance teams:
 - a. Type of material involved;
 - b. Other chemicals within the vicinity of the spill or fire;
 - c. Measures already taken to control the emergency.
- 8. The Emergency Coordinator must provide for treating, storing or disposing of recovered wastes, contaminated soils or water, or any other debris resulting from a

fire or spill of hazardous wastes at the facility. PRECAUTIONS MUST BE TAKEN TO AVOID MIXING INCOMPATIBLE WASTES AND TO PREVENT WASTES FROM CONTACTING INCOMPATIBLE MATERIALS.

9. All equipment used during the emergency must be cleaned and made fit for use or replaced immediately in order to be prepared for another emergency. Decontamination should consist of a minimum of three steam cleanings of structural surfaces and equipment. DECONTAMINATION OF EQUIPMENT SHALL FOLLOW THE PROCEDURES SPECIFIED IN THE VAN WATERS & ROGERS INC. OPERATING STANDARDS MANUAL, SECTION 6.1, EXHIBIT 4.

B. DESCRIPTIONS OF HAZARDOUS WASTES:

Hazardous wastes are similar to the hazardous materials handled at the Branch. The hazardous characteristics of the wastes are those of ignitibility (flammable) and/or toxicity. Hazardous wastes will usually be in containers (55-gallon drums or 350-gallon portable tanks), and they will either be in transit through the facility (on-site for only several days) or in storage in a specially designed storage facility with a secondary containment system. The types of hazardous wastes that may be present at the Branch are:

EPA Waste Code	<u> Hazardous Characteristic</u>
F001 F002 F003 F005 D001	(Toxic) (Toxic) (Toxic and ignitable) (Ignitable) (Ignitable)

Spills of hazardous wastes should be contained using sand and other inert adsorbents. Clean-up of the spill should be conducted in the same manner described earlier for their non-waste equivalents. Persons coming into contact with a spilled hazardous waste should remove contaminated clothing and wash thoroughly with soap and water. Obtain medical attention as soon as possible.

C. SPECIAL REQUIREMENTS FOR HAZARDOUS WASTE EMERGENCIES

All accumulated liquids and materials collected during clean-up operations must be labeled and marked as appropriate for the waste material. Mixing more than one waste or adding soil during clean-up activities may result in the composition of the

waste material being unknown. Samples of resulting materials shall be taken if for any reason the identity of the material is uncertain.

Any equipment used in a clean up activity must be cleaned using materials appropriate to remove the contaminant. Equipment and structural surfaces should be steam cleaned at least three times to remove contamination. The resulting material from this decontamination process shall be placed within recovery drums for disposal, unless it is deemed incompatible with the other waste materials already contained within the drums. The Emergency Coordinator must ensure that no hazardous wastes are received at the Branch for storage until Branch Operations have been returned to normal.

XV. EMERGENCY PLAN - REPORTING

The Emergency Coordinator must report on the emergency as soon as possible after the emergency has been resolved.

- 1. Contact the Regional Operations Staff as soon as possible (immediately).
- 2. The Region will notify the appropriate State and Federal regulatory authorities of the incident.
- 3. Complete an Unusual Incident Report and file the report with the Region.
- 4. Required written reports will be submitted by the Region in conjunction with the Emergency Coordinator.
- 5. If reportable quantities of hazardous materials are released, the report of the release will be made to the National Response Center and the proper local authorities (the Fire Department and the LEPC) by the Region.
- 6. The required notification to local, State, and Federal regulatory authorities that the branch has returned to normal operations and is in compliance with all permit requirements must be made before operations resume. This notification will be made by the Region in conjunction with the Emergency Coordinator.
- 7. A report on the implementation of the contingency plan, if the plan is implemented for an emergency involving hazardous wastes, must be submitted to the appropriate Federal and State regulatory agencies. The report will be submitted by the Region in conjunction with the Emergency Coordinator. The format and content of the report will be that required by the regulations (see reporting requirements at the end of this section).

CONTINGENCY PLAN
REPORTING REQUIREMENTS

(40 CFR PART 264.56(J))

The owner/operator must note in the operating record the time, date, and details of any incident that requires implementing the Contingency Plan. Within 15 days after the incident, he must submit a written report on the incident to the DIRECTOR, OHIO ENVIRONMENTAL PROTECTION AGENCY AND THE Regional Administrator, U.S. ENVIRONMENTAL PROTECTION AGENCY. The report must include:

- Name, address, and telephone number of the owner or operator;
- 2. Name, address, and telephone number of the facility;
- 3. Date, time, and type of incident (e.g., fire, explosion);
- 4. Name and quantity of materials involved;
- 5. The extent of injuries, if any;
- 6. An assessment of actual or potential hazards to human health and the environment, where this is applicable; and,
- 7. Estimated quantity and disposition of recovered material that resulted from the incident.

XV. PRESS RELATIONS

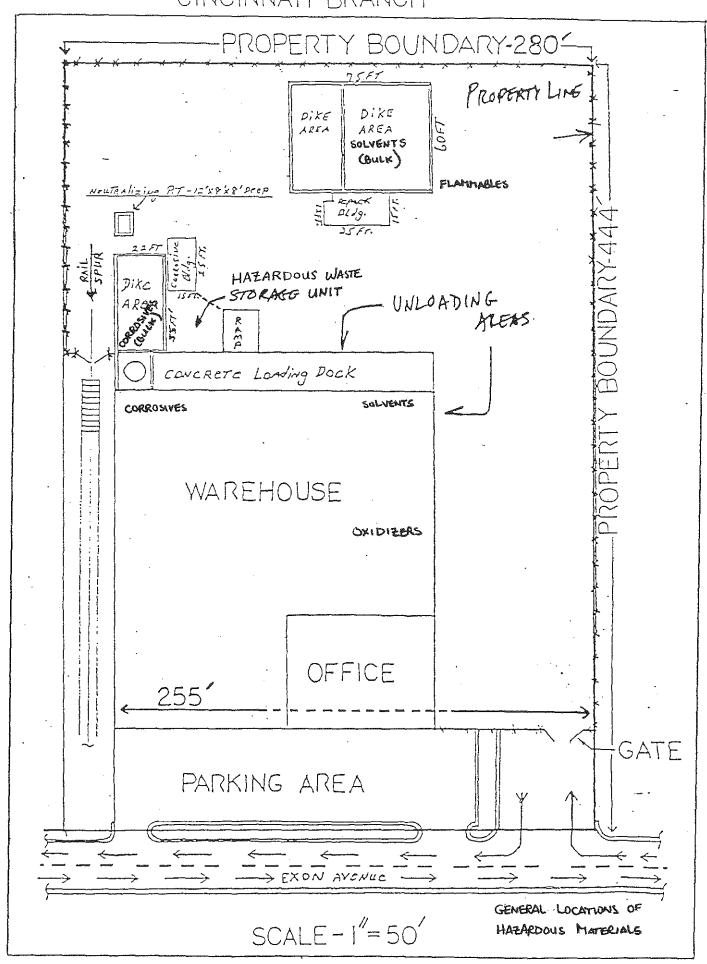
During an emergency, especially a visible one involving local emergency response agencies (fire and police departments) and crowds of spectators, local news media representatives will be sure to be in attendance. They will want to know who, what, where, when, how, and why. The on-scene spokesperson for the Branch should be the Branch Manager.

Answer all questions openly and honestly if you know the answer. If you do not know the answer, say so, and feel free to refer the matter to the Regional Operations Staff or the Home Office. Answer only the question put to you. Do not volunteer information and do not speculate about anything. There is nothing wrong with admitting you do not know the answer to something, but do not withhold anything that you do know.

Always remain positive. It is important to remain in control of emergency situations and to act like you know what you are doing. After all - you do!

It is the responsibility of the local emergency planning committees to share this plan with the citizens of the community. Be prepared for loaded questions concerning the implementation of the plan, and feel free to refer them to the Regional Operations Staff for additional information.

An educated public is our best friend.



Van Waters & Rogers Inc. Revised: July 6, 1990

CHAPTER I

CLOSURE AND POST-CLOSURE PLANS and FINANCIAL ASSURANCE

(40 CFR Part 264.110 through 151) (OAC 3745-55-10 through 51)

The following discussion outlines the steps Van Waters & Rogers Inc. will take in a closure situation in order to comply with the regulations cited above.

Van Waters & Rogers Inc will retain a copy of this closure plan at the facility. Closure of the hazardous waste storage unit will require written notification to the U.S. Environmental Protection Agency (U.S. EPA) and the Director of the Ohio Environmental Protection Agency (OEPA) at least 45 days prior to the date of closure. Closure will be completed within 180 days from the start of closure activities. Van Waters & Rogers Inc., within 60 days of the completion of closure, will submit to the OEPA and the U.S. EPA a certification by both Van Waters & Rogers Inc. and an independent registered professional engineer that the unit has been closed in accordance with the procedures and standards outlined in an approved closure plan.

Van Waters & Rogers Inc. will continue to operate this facility as long as it is deemed economically viable and is

permitted by applicable laws and regulations. The facility will continue to generate, transport, and store containers of hazardous wastes at least until the year 2010.

CLOSURE PERFORMANCE

Procedures developed by Van Waters & Rogers Inc. for managing waste materials are designed to ensure the hazardous waste management unit complies with applicable laws and regulations, and to prevent threats to human health and the environment. The goal is to assure that the unit upon closure is "clean" and will not require any post-closure maintenance. This operating goal minimizes closure activities and eliminates the need for post-closure requirements.

"Clean" is defined as non-detectable quantities of hazardous constituents using standard laboratory METHODS. dection limits. THE LABORATORY METHODS USED WILL BE THOSE CONTAINED IN "TEST METHODS FOR EVALUATING SOLID WASTE, PHYSICAL/CHEMICAL METHODS", EPA PUBLICATION SW-846, THIRD EDITION. A TEST RESULT BELOW THE PRACTICAL QUANTITATION LIMIT (PQL) FOR THE TEST METHOD USED WILL DEFINE NON-DETECTABLE.

When unintentional contamination is detected, sampling and analysis of the contamination (unless the source of the contamination is readily apparent) is undertaken immediately to

determine the specific contaminants and the appropriate steps to remediate the problem. Leakage is controlled immediately upon discovery by placing the leaking container into a secure recovery drum. The recovery drum is of the proper specification for the waste, and is properly labeled for transport to a permitted treatment/disposal facility. All materials contaminated by the leak are containerized, labeled and transported to a permitted treatment/disposal facility. The containment area is cleaned after removal of the leaking container and contaminated materials. Waste collected during decontamination activities is containerized, labeled and transported to a permitted treatment/disposal facility. Incidents of spills and/or leaks are reported as required by applicable regulations and documented as part of the Branch operating record.

PARTIAL CLOSURE ACTIVITIES

Partial-closure activities could occur if it becomes necessary to relocate the hazardous waste storage unit at the Branch. If circumstances dictated its relocation, a new hazardous waste storage unit would be opened according to the regulations and the previous location would be closed. Partial-closure activities would follow the same decontamination procedures called for in this plan.

MAXIMUM WASTE INVENTORY

The size of the entire facility is 3.00 acres, of which only a small portion, 1,450 square feet, will be used for storage of hazardous wastes. All loading/unloading areas and storage areas utilized for wastes will be constructed of concrete which is impervious to nearly all types of hazardous wastes.

The storage unit will be located adjacent to the loading dock on the east side of the warehouse (the northeast corner of the warehouse) (see Exhibit I-1). Containers of hazardous waste will be loaded/unloaded from trucks at the loading docks on the east side of the warehouse and transported to and from the storage unit by fork lift trucks. The storage unit is five sided (see Exhibit I-2). Overall the unit will cover 1,450 square feet. The unit is bermed and has a volume of 725 cubic feet or 5,423 gallons.

The types of hazardous wastes stored at this facility fall into the following categories:

E.P.A. <u>Waste Code</u>	Description
F001	Spent halogenated solvents; tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, and chlorinated fluorocarbons.

E.P.A. <u>Waste Code</u>	Description
F002	Spent halogenated solvents; tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, orthodichlorobenzene, trichlorofluoromethane.
F003	Spent non-halogenated solvents; xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol.
F005	Spent non-halogenated solvents; toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, and benzene.
D001	Ignitable wastes (non-specific); isopropanol, ethanol, or glycol ethers.

The wastes stored in the storage unit will either be single constituent waste streams or multiple constituent waste streams. Multiple constituent waste streams may have components from one or more EPA waste code category listed above. All of the constituents which comprise the waste streams listed above are compatible with one another. The percentage of each constituent will vary per waste stream.

This facility will store only containerized solvent wastes in drums and portable tanks from off-site generators and our own solvent wastes created during our repackage operations. The requested maximum inventory is 11,000 gallons of hazardous waste. The equipment used for handling hazardous waste at the facility will be fork lift trucks and pallets.

INVENTORY REMOVAL / DECONTAMINATION of EQUIPMENT

After notification of our intent to close has been registered with the regulatory agencies, the anticipated time required to schedule removal of the waste inventory and perform decontamination ac vities will be about 21 days.

Decontamination ac vities will begin within 14 days of the end of the notification period or receipt of an approval to proceed with closure. Although the wastes in storage at the time of closure would be presumed to be material destined for resource recovery (recycling is the current method for treatment of the vast majority of the waste handled at this facility), for purposes of computing closure cost estimates we are assuming the inventory would require disposal instead. This worst case scenario inflates the closure cost estimates allowing sufficient margin to cover unexpected contingencies.

Because the hazardous waste management unit will function solely to store hazardous wastes in containers, extensive decontamination activities are not anticipated to be necessary at closure. Decontamination will involve several applications of pressurized steam cleaning of the storage unit and equipment, laboratory analysis of the rinsate from the steam cleaning to determine if it is contaminated, disposal of pallets used for hazardous waste storage, and the disposal of rinsate from steam cleaning.

Decontamination of the storage area will be handled by an outside contractor with oversight from an independent registered professional engineer. The extent of decontamination activities will be determined by a review of the facility's operating record and a visual inspection of the waste storage area. The operating records will be reviewed for events of leakage, and the visual inspection will look for discoloration, corrosion, and cracks. Hairline stress cracks, and cracks at seams and joints will be examined to determine if they may have compromised the integrity of the secondary containment system. If the cracks or seams appear to extend through the secondary containment system, a soil sampling plan will be initiated to test for contamination beneath and around the storage unit. Hairline cracks, and seams and joints in the floor of the storage unit will be sealed with an epoxy resin before cleaning begins.

If soil sampling is warranted, the storage unit and the area immediately surrounding the unit will be divided into grids. Each grid will be numbered. Fifty percent of the grids will be sampled. The grids to be sampled will be selected randomly as well as deliberately based upon the detection of cracks, seams, corrosion, and discoloration. Soil sampling and analysis will be done by an independent, professional engineering firm using EPA approved sampling and analytical techniques.

At a minimum the hazardous waste storage unit will be steam cleaned, and the rinsate collected in 55-gallon drums and analyzed to establish levels of contaminants. Based upon previous experience at other facilities where steam cleaning has occurred, we anticipate generating no more than one drum (about 50 gallons) of rinsate. The contaminants tested for will include the HAZARDOUS CONSTITUENTS CONTAINED IN THE SPENT solvents handled by the facility (which are covered in 40 CFR Part 268.41 Table CCWE for FOO1 - FOO5 wastes), and for the RCRA hazardous waste characteristics of EP-Toxicity, corrosivity, ignitibility, and reactivity. The definition of "clean" will be defined as hazardous constituents in non-detectable quantities using standard laboratory detection limits.

The storage unit will be steam cleaned until the rinsate has non-detectable levels for all of the hazardous constituents known to be in the types of hazardous wastes stored at the facility. If soil sampling is required, soil samples will be collected to determine the vertical and areal extent of contamination. Again, a non-detectable result will be the benchmark by which the storage unit and the soil under and around the unit may be considered "clean".

All wastes from decontamination activities will be containerized and properly disposed at a permitted treatment/disposal facility. Prior to transport, all containers

of waste will be inspected for leaks and proper labeling.

Appropriate hazardous waste manifests and land disposal restriction statements will be used to transport the waste materials.

CLOSURE of DISPOSAL UNITS

Van Waters & Rogers Inc. does not operate hazardous waste tanks, waste piles, impoundments, incinerators, or land treatment units at this facility and, therefore, will not be submitting closure plans for them.

SCHEDULE for CLOSURE

All waste materials would be removed from the unit and the unit decontaminated and closed within the time frame shown on the chart shown as Exhibit I-3.

EXTENSIONS for CLOSURE TIME

Total closure activities should be easily completed within 180 days from their initiation. Because the storage unit was used to store only containers of hazardous waste, and if there is no record or evidence of any spills or leaks, then decontamination activities should be minimal. Van Waters & Rogers Inc. does not anticipate the need to request an extension of time needed for

closure of the unit.

POST-CLOSURE PLANS

VAN WATERS & ROGERS INC. DOES NOT ANTICIPATE THE NEED TO CONDUCT POST CLOSURE ACTIVITIES AT THE FACILITY. Post closure plans are not applicable to hazardous waste storage facilities. Additionally, Procedures developed by Van Waters & Rogers Inc. for managing waste materials are designed to assure a storage unit's compliance with applicable laws and regulations, and to prevent threats to human health and the environment. The goal is to assure that a hazardous waste management unit upon closure is "clean" and will not require any post-closure maintenance.

NOTICE in DEED

Because this location will function only as a temporary storage facility, notation is not needed on the deed to inform potential purchasers of the use of this property for that purpose.

CLOSURE COST ESTIMATE

Closure costs are shown in Exhibit I-4. The costs are computed using the most current figures for operating costs and inflation. A worst case scenario is envisioned. This scenario

includes clean-up and disposal of the maximum waste inventory by a third party contractor. It also includes decontamination costs, sampling and analysis costs, and transportation costs, all by third party contractors.

Estimates of the costs involved were obtained over the telephone from MAECORP, Inc., a hazardous waste contractor based in Chicago, Illinois and covering the Midwest area. Exhibit I-5 displays the most current cost schedule from a firm in the Chicago area with treatment/disposal facilities capable of handling solvents. Disposal costs per gallon and transportation costs are calculated from these figures. Based on a review of past waste streams, a worst case waste stream consisting of 30 gallons of bottom sludge and 25 gallons of mixed component recoverable solvents was used to calculate disposal costs per container.

FINANCIAL ASSURANCE for CLOSURE

Financial assurance for closure is covered by a trust agreement and a surety bond guaranteeing payment into a trust fund (a financial guarantee bond). A bond rider covering the most recent closure cost estimate is updated annually to reflect current operating costs and adjustments for inflation. A trust agreement and surety bond are shown as Exhibit I-6.

Closure costs are updated annually within 60 days of the anniversary of the date on which the financial instruments were established. The costs are updated using the inflation factor derived from the annual Implicit Price Deflator for Gross National Product as found in the Survey of Current Business issued by the U.S. Department of Commerce. Each year, the closure cost from the previous year will be adjusted for inflation.

HAZARDOUS WASTE -- CERTIFICATE OF LIABILITY INSURANCE

Exhibit I-7 is a copy of our certificate of liability insurance. General liability insurance for sudden and non-sudden accidental occurrences will be covered as required by Ohio Administrative Code 3745-55-47.

Van Waters & Rogers Inc. Revised: July 6, 1990

CHAPTER J

CORRECTIVE ACTIONS for SOLID WASTE MANAGEMENT UNITS

(40 CFR Part 264.101) (OAC 3745-55-01)

This facility does not operate any other solid waste management units except for its hazardous waste storage unit described in this RCRA Part B application. We also are not aware of any solid waste management units operated at this facility in the past. THERE ARE NO OTHER AREAS AT THE FACILITY WHICH HAVE THE POTENTIAL FOR SYSTEMATIC OR ROUTINE RELEASES. At this time there are no corrective actions required, on-going, or planned. COMPANY POLICY REQUIRES A REGULAR PROGRAM OF SAFETY TRAINING, ENVIRONMENTAL AUDITS, AND INSPECTIONS. Should our continuing program of inspections and monitoring indicate a release of hazardous waste OR HAZARDOUS CONSTITUENTS IN ANY QUANTITY, that constitutes a threat to human health and the environment, corrective actions would commence immediately upon its discovery.

A certification of the fact that Van Waters & Rogers Inc. has not and does not operate any solid waste management units AT THIS FACILITY is shown as Exhibit J-1.

Tab Products Co. SPACEFINDER SYSTEMS Model No. 4360-6 Van Waters & Rogers Inc. Revised: June 1991

VAN WATERS & ROGERS INC.
Subsidiary of UNIVAR

EMERGENCY/CONTINGENCY PLAN

Evendale (Cincinnati) Branch 3025 Exon Avenue Evendale, Ohio 45241

EPA ID#: OHD 002 899 847

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SECTION I. OBJECTIVES of the PLAN

This Emergency/Contingency Plan has two major purposes. The first is to assign responsibilities. The plan assigns specific authorities to key personnel for the implementation of emergency procedures. The plan also defines specific procedures to be used by key personnel in the event of an emergency.

Secondly the plan is designed to provide a total facility response program applicable to any emergency. Responses required in the event of a specific type of emergency - fire, explosion, chemical spill, or natural disaster - are spelled out. The plan is designed to enable branch personnel, in the event of an emergency, to undertake actions that will minimize any threat to the facility, employees, residential and business neighbors, company assets, adjoining properties, and to human health and the environment.

The plan should be kept in one place at the facility. This place should be accessible to anyone needing the plan in an emergency situation, and copies should be distributed to key personnel (those with responsibilities during emergency situations). The plan should be understood by all employees.

The plan is organized so that changes in personnel, procedures and regulations can be easily incorporated into the plan as they occur, assuring up-to-date information. At the end of this section is a list of items that should be updated on a regular basis to assure the plan remains current.

Additional details for procedures outlined in this plan are found in three other Van Waters & Rogers Inc. documents in the possession of each branch office:

- 1. Operating Standards Manual
- 2. Hazardous Waste Standards Manual
- 3. Safety & Compliance Review Documentation Manual

The contingency plan must be modified if any of the following conditions exist:

- 1. The facility RCRA Part B permit is revised (if applicable).
- 2. The Contingency Plan fails in an emergency.
- 3. The facility changes its design or operation, or for other circumstances that materially increases or decreases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the

response necessary in an emergency.

- 4. The list of emergency coordinators changes.
- 5. The list of emergency equipment changes.

Whenever the contingency plan is revised it must be redistributed to the local police and fire departments, local hospitals, and state and local emergency response agencies that may be called upon to provide emergency services. The revised plan must also be submitted to the director of the state agency in charge of hazardous waste programs if the facility has a RCRA Part B permit or interim status.

This Emergency and Contingency Plan is designed to satisfy the requirements for such a plan as mandated by the Resource Conservation and Recovery Act (RCRA), the Superfund Amendments and Reauthorization Act (SARA) - Title III, and the Hazardous Waste Operations and Emergency Response (HAZWOPER) provisions of the Occupational Safety and Health Administration (OSHA) regulations.

Update Form - Contingency Plan Information

Please keep current the name, address, and phone numbers (home and work) for the following emergency personnel:

- 1. Emergency Coordinator
- Alternate Emergency Coordinator(s)
- 3. Fire/Spill Control Team Leader(s)
- 4. First Aid Team Leaders(s)
- 5. Assembly Point Leader(s)

Please develop and maintain the list of the names of the people assigned to each function listed above.

Please keep current the phone number of the following local emergency services agencies:

- 1. Police Department
- 2. Fire Department
- 3. Ambulance
- 4. Hospital/Clinic
- 5. Emergency Services Disaster Agency
- 6. Local Emergency Planning Commission (LEPC)
- 7. State Emergency Response Commission (SERC)

Please maintain the names, addresses, and telephone numbers of adjacent property owners.

Please provide the name, address, and phone number of a licensed transporter of hazardous materials/wastes that you could call to provide assistance in the event of an emergency.

Please provide the name, address, and telephone number of a contractor that you could call for assistance during an emergency involving hazardous materials or wastes (advice and/or clean-up).

On the facility plan in Appendix A, please show the location of emergency/safety equipment. Use the following codes:

- FE = fire extinguisher
- ER = Emergency response kits A,B, and C
- AM = absorbent materials for spill control
- RD = recovery drums
- EP = electrical panels
- FA = first aid stations (include eye wash/safety shower
 - stations and first aid kits)
- EA = emergency alarms
- SS = storm sewers

Please keep the above items up-to-date. Send any changes to the Regional Environmental and Operations Manager. Thank you.

SECTION II. DISTRIBUTION OF THE PLAN (Arrangements with Local Authorities)

Each branch will receive and maintain one original copy of the plan. It is to be kept in an accessible location.

Copies of the complete plan are to be distributed to all emergency services agencies reasonably expected to be called upon in the event of an emergency. The recipients are to acknowledge receipt of the plan. At the end of this section is an example of a letter of transmittal which may be used to distribute the plan. The best method for distributing the plan, however, is to hand deliver it. The following organizations are to be sent a copy of this plan:

Local Fire Department
Local Police Department
Local Hospital/Emergency Room
Appropriate State Agencies

The Local Emergency Planning Commission is responsible for sending copies of this plan to concerned citizens and members of the community.

Depending on the location, there may be other organizations that would receive a copy of the plan:

Rescue Teams Emergency Ambulance Corps

Copies of all current receipts and letters of transmittal are to be kept on file and be readily available for inspection at the Branch.

Current Date

Police Department
Fire Department
Hospital
Lccal Emergency Planning Commission

Re: Van Waters & Rogers Inc. Branch Street Address City, State, Zip Code

Dear Director:

Van Waters and Rogers, Inc. operates a chemical distribution center at the above address. In our continuing effort to keep emergency service agencies and others informed who potentially may be called upon during an emergency situation at our facility, we are providing you with a copy of our most current Emergency/Contingency Plan. Knowledge of our facility and its operations as discussed in our Emergency/Contingency Plan will help you provide informed emergency assistance to us in the unlikely event of a fire, explosion, or the release of a toxic material.

We are required by the Resource Conservation and Recovery Act, and the Superfund Amendments and Reauthorization Act to show that we have informed local emergency assistance facilities such as yours of the equipment, supplies, and plans we have in-place in the event of an emergency at our facility. We ask that you review the plan, and sign and return a copy of this acknowledgement of its receipt in the enclosed envelope. Also, we would appreciate your comments or suggestions on the plan in order to assist us in making it as useful as possible to those who may be involved in an emergency situation at our facility.

Thank you for your cooperation in this regard.

Very truly yours,

Namo

Regional	Environmental	and	Operations	Manager	
Acknowledgement:					
Name:					
Title:					
Date:					

SECTION III. BRANCH SAFETY ORGANIZATION

The responsibility for the Branch's safety program lies with the Branch Manager. The organization used to implement this plan will vary according to the size of the Branch, the chemicals it stores, the existence of repackaging facilities, and its involvement in the management of hazardous wastes. The implementation of this plan requires an EMERGENCY COORDINATOR and an ALTERNATE EMERGENCY COORDINATOR(s).

Usually the Branch Operations Manager functions as the Emergency Coordinator and the Branch Manager is the Alternate. Although the Alternate is second in command, he/she must be fully qualified to take over all the functions of the Emergency Coordinator in his/her absence. In addition to these two positions, the following assignments must be provided for:

FIRST AID LEADER(s)
FIRE/SPILL RESPONSE TEAM LEADER(s)
ASSEMBLY POINT LEADER(s)

A. EMERGENCY COORDINATORS

The lists of personnel assigned as leaders and team members are located at the end of this section. The responsibilities of each function follow:

1. BRANCH MANAGER

It shall be the responsibility of the Branch Manager with assistance from Regional Staff to provide the mechanisms necessary to implement the plan.

a. Personnel

- 1. An Emergency Coordinator and Alternate must be designated and trained.
- 2. Additional personnel are designated and trained to implement the plan.
- 3. All personnel are aware of the hazards of the products handled at the branch.
- 4. Selected branch personnel are trained in:

First Aid procedures
Use of respiratory equipment
Use of self-contained breathing apparatus
Use of Chlorine Emergency Kits

- 5. All branch personnel are trained in the use of fire extinguishers.
- 5. All personnel participate in a semi-annual training exercise based on the plan.

b. Equipment

All equipment listed in this plan is on hand, is in operating condition, and is available for use in emergency response situations.

c. Plan Update

The plan will be kept current and complete by a quarterly review. The review should assess changes in operating procedures, equipment, and personnel.

d. Documentation

All employee training in the implementation of this plan will be documented. Distribution of the plan to appropriate agencies will be made and receipts obtained.

2. EMERGENCY COORDINATOR

It shall be the responsibility of the Emergency Coordinator with assistance from the Regional Staff to implement the plan as needed.

a. Personnel

- 1. All the personnel necessary to implement this plan shall be made aware of their responsibilities as outlined in the plan. Employees must be informed of the hazards involved with the materials handled at the branch.
- 2. Selected branch personnel are to be trained in:

First Aid procedures
Use of respiratory equipment
Use of self-contained breathing apparatus
Use of Chlorine Emergency Kits

- 3. All branch personnel are to be trained in the use of fire extinguishers.
- 4. All personnel are to participate in a semi-annual training exercise regarding this plan.
- 5. Personnel are to be assigned to and trained to

perform the duties needed on the:

Fire/spill Response Team(s)
First Aid Team(s)
Assembly Point Teams(s)

b. Equipment

Insure that all equipment identified in the plan is on hand, is in operating condition, and is specifically identified and set aside for use upon implementation of this plan, as applicable. Insure that an inventory of this equipment is taken and that this inventory is documented.

c. Authority

The Emergency Coordinator has the authority to commit all available resources required to implement this plan.

- d. Implementation of the plan.
 - 1. Arrangements with local authorities concerning emergency assistance are to be made and documented.
 - 2. In the event of imminent or actual emergency, the Emergency Coordinator must implement the plan as follows:
 - a. Notify all concerned of the emergency situation including plant personnel and neighbors as applicable.
 - b. Analyze the emergency situation.
 - c. Initiate the appropriate corrective action.
 - d. Secure the emergency scene.
 - e. Clean-up the emergency scene.
 - f. Working with Regional Operations staff, file reports with company and regulatory agencies as appropriate and required.

3. ALTERNATE EMERGENCY COORDINATOR(S)

Anyone assigned the duty of Alternate Emergency Coordinator shall be responsible for carrying-out the duties of the Emergency Coordinator in his/her absence. The Alternate Emergency Coordinator(s) must be fully aware of the procedures and

requirements of this plan.

4. FIRST AID TEAM LEADER(S)

It shall be the responsibility of the First Aid Team Leader(s) with the assistance and direction of the Emergency Coordinator to insure that all personnel assigned a responsibility in First Aid Teams are familiar with their responsibilities under this plan.

- a. He/she will ensure that all equipment used by the First Aid Team is on hand, in operating condition and specifically identified and set aside for use by the First Aid Team.
- b. He/she will coordinate First Aid Team(s) during emergencies.
- c. He/she will assist personnel that are trained in first aid and maintain an up-to-date knowledge of first aid equipment and techniques.

5. FIRE/SPILL RESPONSE TEAM LEADER(S)

It shall be the responsibility of the Fire/Spill Response Team Leader with the assistance and direction from the Emergency Coordinator to ensure that all personnel with fire and spill control responsibilities are familiar with their function under this plan.

- a. Ensure that all fire/spill response team members are familiar with the hazards of the products we handle and the potential emergencies related to these products.
- b. Ensure that fire/spill response team members understand that they are not trained or equipped to handle a major fire. They must know their limits and always stay within their capabilities.
- c. Ensure that all equipment identified in the plan for use by the fire/spill response team is on hand, is in operating condition and is specifically marked and set aside for use by the fire/spill response team as applicable.
- d. He/she will coordinate members of the fire/spill team(s) during an emergency.

6. ASSEMBLY POINT LEADER(S)

Normally there should be an Assembly Point Leader for the

three areas of a branch - the office, the warehouse, and the repack areas. It shall be their responsibility to:

- a. Turn off the main electrical power switch in the building for which they have responsibility.
- b. Close doors and windows if there is time to do so safely.
- c. Proceed directly to the assembly area(s) as outlined in the evacuation plan.
- d. Account for all personnel assigned to their area and report any absences to the Emergency Coordinator.
- e. Keep personnel in assembly area calm and together.
- f. Coordinate with the First Aid Team Leader(s) and the Emergency Coordinator as appropriate.

B. EMERGENCY RESPONSE PERSONNEL (TELEPHONE NUMBERS)

The phone number listing of those in charge of emergency situations according to the plan are posted within the facility and are kept readily available by the Emergency Coordinator and his/her alternates. Refer to the Emergency Call List distributed by Univar Seattle and kept in Appendix D of this plan.

1. WITHIN Van Waters & Rogers Inc.

a.	Emergency Coordinator	77 3 -	E#0 E60 0440
	Darrell Wheeler Nonresponsive .	Work Home	513-563-2440 Nonresponsive
b.	Alternate Emergency Coordinat Kieth Dorrel Nonresponsive	or #1 Work Home	513-563-2440 Nonresponsive
c.	Branch Manager Ivan Byers Nonresponsive	Work Home	513-563-2440 Nonresponsive
d.	Regional Environmental and Op Robert D. Hickman Nonresponsive	erations l Work Home	Manager 708-573-4334 Nonresponsive
e.	Regional Regulatory Manager James P. Hooper Nonresponsive	Work Home	708-573-4340 Nonresponsive
f.	Area Operations Manager Michael Stevens Nonresponsive	Work Home	317-547-4811 Nonresponsive
g.	Area Manager William H. Crutcher, Jr. Nonresponsive	Work Home	317-547-4811 Nonresponsive

IN-HOUSE EMERGENCY RESPONSE TEAM(S)

Name	Duties
Darrell Wheeler	Emergency Coordinator
Kieth Dorrel	Alternate Emergency Coordinator First Aid Team Leader Fire/Spill Response Team Leader
Robin Robbins	Assembly Point Leader

3. EMERGENCY RESPONSE ASSISTANCE (Contractors)

CHEMTREC	1-800-424-9300
National Response Center	1-800-424-8802
Poison Information Service	1-800-382-9097
Environmental Enterprises, Inc. (Chemical Spill Assistance)	513-772-2818
Schneider Tank Lines (Hazardous Materials Transportation Assistance)	1-800-558-5091
Ohio Environmental Protection Agency	1-800-282-9378

4. LOCAL AUTHORITIES (Area Code: 513)

Fire Department	911 or 825-2260
Police Department	911 or 825-2280
Ambulance	911 or 825-2260
Bethesda North Hospital	569-6111
Local Emergency Planning Committee	579-3100
State Emergency Response Commission	1-800-282-9378

5. ADJACENT NEIGHBORS (Area Code: 513)

Name & Address	Number
Owens-Corning Fiberglass 2987 Exon Ave.	563-2323
Clayton Manufacturing Co. 3051 Exon Ave.	563-1300

SECTION IV. EMERGENCY RECOGNITION (When to Use This Plan)

In the event of an emergency situation, the individual discovering the emergency is to immediately notify the Emergency Coordinator or his/her alternate. If neither is available the next alternate listed on the emergency phone number listing should be contacted. The Emergency Coordinator will determine if the situation warrants implementation of this plan.

The Emergency Coordinator has the authority to commit company resources and initiate requests for assistance to any local outside emergency services agency. The decision must be made by the Emergency Coordinator or the alternate whether a situation poses a threat to human health or safety to such an extent that evacuation of the facility is required. If evacuation is deemed appropriate, then implementation of this plan is appropriate. The following are situations that may require implementation of this plan:

- 1. An explosion anywhere at anytime at the facility.
- 2. A fire that, upon discovery, cannot be controlled by fire extinguishers.
- 3. A release of a toxic or irritating gas in a quantity great enough to threaten human health or the environment.
- 4. A spill of a hazardous liquid that threatens to escape off-site by way of a sewer or overland flow.
- 5. A release of a material that creates, or a situation that results in, obnoxious fumes which may threaten human health or the environment.

In all emergency situations, the Emergency Coordinator should assess the nature of the emergency in the following order:

- 1. Is there a need for evacuation? If yes, then proceed to number 2; if no, then proceed to number 8.
- 2. Issue the signal to evacuate and implement the Emergency/Contingency Plan.
- 3. Account for all personnel.
- 4. Locate and rescue missing personnel.
- 5. See that the injured are attended to.
- 6. Assess the need for outside assistance and call for

help if necessary.

- 7. Assess actions that may be taken safely by in-house emergency response teams to help contain the emergency until professional help arrives.
- 8. Implement appropriate emergency procedures.

Specific procedures to be followed during selected emergency situations are detailed in the sections that follow.

* * * * * * * * * *

* * SAFETY FIRST * *

* * * * * * * * * *

Remember:

Buildings, equipment, and inventory can be replaced - People cannot. Do not attempt any emergency procedure that puts a person's health or safety in jeopardy !!!

SECTION V. PRE-EMEN NCY PLANNING

The types of emergency situations that pose serious threats to human health and the environment are fire, explosions, spills, and natural disasters.

A. FIRE

Generally, the materials at the Branch that pose a fire hazard may be broken into two categories. The first is combustible material such as cardboard packaging, wooden boxes and pallets, and office refuse (paper). The second is solid and liquid flammable chemicals. The most common flammable chemicals handled at the Branch are liquids and are listed below.

The two categories of materials require different fire control strategies. A fire involving the first category of material is usually controllable if discovered early-on. The inhouse Fire Control teams using fire extinguishers and/or on- site fire hoses can contain/control these types of fires if they are not too large. A fire involving the second category of material is extremely dangerous and requires professional action. The following discussions concern actions to be taken (or avoided) during fires involving flammable chemicals.

The types of flammable and combustible materials handled at the Branch will vary from time to time depending upon the current status of the market for industrial chemicals. Generally, the materials will be liquids stored in containers (55-gallon drums, or portable tanks of varying sizes) and bulk tanks (anywhere from 3,000 to 60,000 gallons capacity). Also, the materials generally will be flammable (that is, their flash points are below 100 degrees F) as opposed to combustible, and may or may not be soluble in water. Examples of flammable liquids at the Branch are:

Flammable Liquids (soluble in water)

Acetone Ethanol IPA (Isopropyl alcohol) Methyl alcohol (Methanol)

Flammable Liquids (insoluble in water)

MEK (Methyl ethyl ketone)
Mineral Spirits
Naptha
Toluene
Xylene

Flammable liquids and mixtures that contain these flammable

compounds are extreme fire hazards. And worse, if sealed containers of these liquids are in a fire, once the container becomes hot enough it may explode violently. Be sure to maintain a safe distance between the Fire Control Teams and a fire involving these chemicals.

Flammable liquids are volatile, meaning they release vapors which are also highly flammable, and when inhaled in large doses, they also can be toxic. The vapors are generally heavier than air and will tend to be carried downwind along the ground for some distance before being dispersed. Be sure to eliminate all sources of ignition downwind of a release of these materials.

Flammable liquids that are soluble in water may be extinguished with water and/or other types of fire extinguishing methods. Flooding an area where water soluble flammables are burning would be a very effective fire control technique. One should also consider diking around a burning area to prevent the spread of flames should containers of flammable liquids fail during the fire and release their contents.

Flammable liquids that are insoluble in water also may be extinguished with water; however, flammable liquids that are insoluble in water are usually lighter than water and may tend to be carried along on the water while still burning. Massive amounts of water must be used to smother the flaming liquid. Unless massive volumes of water are used, it might be better to use water to keep surrounding buildings and inventory from catching on fire instead of trying to douse the actual fire. Foams, dry chemicals, halon, or CO2 fire extinguishers work well in extinguishing fires involving flammable liquids. Again, as mentioned above, it might be a good idea to dike the area to prevent the spread of flames if containers of flammable liquids fail during the fire.

During a fire, flames and explosions may not be the only dangerous conditions present. Depending upon where the fire is and what material is affected by the fire, there may also be toxic or irritating fumes and smoke being generated by the fire. The Emergency Coordinator must be aware of this possibility and make sure in-house fire/spill control teams, spectators, and arriving fire departments are informed of this possibility and properly protected.

Unless a fire is restricted in some way, such as being small, or not involving or being near extremely flammable materials, or is somehow isolated so that the fire may be allowed to burn itself out if necessary, then it is probably advisable to call the local fire department for professional help. Fire prevention is the job of Van Waters & Rogers Inc. employees. Fire fighting is the job of fire department employees and other emergency services professionals.

B. CHEMICAL SPILLS

Chemical spill control is one of the fields of expertise of Van Waters & Rogers Inc. The company has been involved with hazardous materials for a number of years and has gained a thorough knowledge of the physical and chemical properties of the products handled at this Branch. The Branch is equipped to contain and clean-up spills of all types of hazardous materials.

Of greatest concern is a spill of a large amount of liquid hazardous material. Such spills are most likely to occur at the tank farm where bulk tanks and tank trucks are located. Large spills are less likely to occur in container storage areas or the repack areas. However, the spill of even one container in the wrong place, such as over an open stormwater drain, can be as disastrous as a large spill. Regardless of the size of the spill, the first goal during an emergency response to the spill is to confine the spill on-site. No spilled material or residue of a spilled material should be allowed to migrate beyond our property boundaries (up, down, or sideways).

DO NOT WASH DOWN ANY SPILL WITHOUT FIRST CONTACTING THE REGIONAL OR HOME OFFICE OPERATIONS STAFF.

Employees discovering a spill are instructed to always alert the Emergency Coordinator first, then try to control/contain the spill, but only if it is safe to do so.

The common types of liquid hazardous materials which may be handled at this branch may be classified into six basic categories. The categories are chlorinated organics, corrosives, flammables, oxidizers, poisons, and hazardous wastes.

1. Chlorinated organics:

Chlorinated organic chemicals are toxic to varying degrees, and may cause skin irritation or rashes to develop if spilled material comes into contact with the skin. The majority of the chlorinated organics are non-flammable. Vapors from these chemicals can cause eye irritation, lung irritation, and dizziness. Examples of chlorinated organics are:

Methylene chloride Perchloroethylene (tetrachloroethylene) 1,1,1 trichloroethane Trichloroethylene

The area of spilled chlorinated organics should be diked using inert adsorbents or sand. Pools of spilled material then may be pumped into a recovery drum. Liquids that cannot be recovered by pumping should be made into a solid using inert

adsorbent material and then shove d into a recovery drum. Contaminated soils should be excavated and contained in recovery drums. Contaminated equipment should be cleaned and the cleaning residue contained in recovery drums. Persons coming into contact with the spilled material should remove all contaminated clothing and wash thoroughly with soap and water. Obtain medical attention as soon as possible.

2. Corrosives:

If corrosive materials come into contact with other materials such as flammables and oxidizers, violent reactions, fires or eruptions may occur. Spills may liberate large volumes of fumes which may be toxic and can cause eye, skin and respiratory injury. Personnel must evacuate areas with fume clouds and avoid contact with this material. Most corrosives generate heat when contacted by water and may erupt and violently fume. Examples of corrosive materials include:

Acetic acid
Ferric chloride
Hydrochloric acid (Muriatic acid)
Nitric acid (<40%)
Phosphoric acid
Sodium hydroxide (Caustic soda)
Sulfuric acid

Spills should be confined if possible to prevent mixing with other materials and to prevent possible contamination of ground water and property. Corrosive spills should be neutralized; acids with soda ash, and bases (caustics) with boric acid or a dilute hydrochloric acid solution. Sand may be used to form a dike to confine large spills. Persons coming into contact with these materials should wash with water for at least 15 minutes after removing contaminated clothing and shoes. Obtain medical attention as soon as possible.

3. Flammables:

Flammable spills release vapors which will ignite when contacted with an open flame, sparks or a hot surface. Flammable vapors are often heavier than air and will tend to spread along the ground until dispersed by the wind. Vapor clouds when ignited burn rapidly spreading flames back to the source of the spill. Contact with corrosive materials may cause ignition and must be prevented. Action should be taken to remove all possible ignition sources in the area of flammable vapor clouds emanating from a liquid spill. Examples of flammable materials are:

Acetone Ethanol Isopropyl alcohol Methanol Methyl ethyl ketone Toluene Xylene

Spill control, clean-up, and personal safety procedures are similar to those mentioned for chlorinated organic chemicals. Be constantly on guard against possible sources of ignition.

4. Oxidizers:

Oxidizers are chemicals which yield oxygen readily to stimulate burning of combustible materials. If spilled, they should be kept from contacting flammable liquids and other combustible materials. Oxidizers contain labile oxygen and when heated or shocked, can decompose with explosive force. If any of these materials are involved in a fire or a large spill, personnel should be evacuated from the scene. Examples include:

Ammonium nitrate
Calcium hypochlorite
Hydrogen peroxide
Nitric acid, fuming
Potassium permanganate
Sodium nitrate
Sodium nitrite

Some oxidizers, such as hydrogen peroxide, will eventually decompose becoming, essentially, harmless compounds. Others do not, and though they may look inert and harmless, may still be dangerous if not cleaned-up and handled properly. In the event of a spill, try and contain the material with a dike made of sand to keep the oxidizer from coming into contact with any combustible material. After the oxidizer has finished decomposing, it may be collected and put into recovery drums. Personnel coming into contact with an oxidizing material should be flushed with massive amounts of water and obtain medical assistance as soon as possible.

5. Poisons (pesticides):

Most of the poisons handled at the Branch are pesticides. Some poisons, those which are cyanide based, are extremely toxic and very small quantities can cause immediate illness or death. The Material Safety Data Sheet on the poison involved in the emergency should be consulted to determine appropriate emergency procedures. Personnel should be evacuated from the area (evacuate up-wind of the spill) if the spill is large and the poison is a cyanide based poison. Examples of poisons which may be at this Branch follow:

Arsenic based formulations Carbamates Cyanide based formulations Mercury based formulations Methyl bromide Organochlorines Organophosphorus compounds

If possible, <u>using SCBA safety gear</u>, confine the spread or flow of materials to the immediate area using sand and inert adsorbents. Consult the MSDS on the chemical to determine the appropriate method for neutralizing the poison and cleaning-up the residue. Personnel coming into contact with this material must remove contaminated clothing, wash thoroughly with soap and water, and obtain immediate medical attention.

6. Hazardous wastes:

Hazardous wastes generally exhibit properties similar to the hazardous materials handled at the Branch. The hazardous characteristics of the wastes are those of ignitability (flammable) and/or toxicity, or corrosivity. Hazardous wastes will usually be in containers (55 gallon drums), rarely if ever in bulk, and they will either be in transit through the facility (on-site for only several days) or in storage in a specially designed storage facility with a secondary containment system.

Spills of hazardous wastes should be contained using sand and other inert adsorbents. Clean-up of the spill should be conducted in the same manner described above for their non-waste equivalents. Persons coming into contact with a spilled hazardous waste should remove contaminated clothing and wash thoroughly with soap and water. Obtain medical attention as soon as possible.

C. TOXIC GAS RELEASES

The release of a toxic gas is a very serious emergency situation. Most gases are very dangerous because they are not as easily detected as a fire or a spill. The first indication of a release is often through detection of its odor. Toxic gases are easily spread by air currents once they are released, and mere breathing in the area of a release increases the risk of exposure. Many gases are extremely toxic. By the time a release of a toxic gas is detected, it often means several people have already inadvertently been exposed to it.

Controlling and containing the release of a toxic gas requires a quick, yet cautious, response. Proper safety gear is an absolute must because stopping the release often means getting right into the thickest part of the toxic gas cloud. The two most important things to consider during an emergency involving the release of a toxic gas are: (1) minimizing to the greatest possible extent, the number of people that will be exposed to the cloud of released toxic gas and, (2) getting the necessary personnel properly outfitted to stop the release. The Material Safety Data Sheet on the toxic gas involved in the emergency should be consulted for information on safety and proper

procedures for control.

Listed below are the general classifications for the toxic gases that may be present at the Branch. As described, the gases are usually toxic to varying degrees, but some are both toxic and flammable.

1. Toxic gases - non-flammable

Non-flammable gases can cause injury or asphyxiation of persons entering the cloud. Tanks containing non- flammable gases can rupture violently when exposed to intense fire conditions because the gas will expand rapidly when heated. Always consult the MSDS on the gas to determine proper safety and control procedures. It is imperative when dealing with a release of toxic gas that full protective equipment be worn by spill control team members. Everyone else must be evacuated from the immediate area (up-wind of the release). Spectators should be kept as far away from the area as possible. Be sure to clearly communicate the nature of the hazard to any local emergency services agencies that you have called for assistance. Examples of toxic gases are:

Anhydrous ammonia Chlorine Sulfur dioxide

Emergency response personnel must wear full protective gear when responding to a release of a toxic gas. The safety gear should include SCBA and any other safety clothing appropriate for the type of gas released. If, and only if, appropriate safety gear is available, an attempt to stop the release should be made. If stopping the release is not possible, then consideration must be given to evacuation of surrounding areas. This should really be considered before attempting to stop the release, and it should include consideration of weather conditions and the nature of the released gas. Evacuation of surrounding areas must be done in conjunction with local emergency services officials. Persons coming into contact with a toxic gas should be removed to fresh air and given professional medical assistance as soon as possible.

2. Toxic gases - flammable

Flammable gases usually ignite immediately upon rupture of their container. Sometimes this is good because the release is easily detectable and the toxicity of the gas is significantly reduced. If a fire does not start immediately, the gas cloud may be easily ignited and the entire cloud will rapidly combust. Examples of flammable toxic gases are:

Hydrogen sulfide Propane Propylene Fires from leaks in containers that cannot be shut off should be allowed to burn. The container and any nearby containers should be kept cool while the flammable gas burns itself out. There probably will be very little to decontaminate after an emergency involving a flammable gas. The Emergency Coordinator should make sure all traces of the gas have been removed from confined areas before allowing clean-up crews to work in the area.

D. HAZARDOUS WASTES

Although it is recognized that the threat posed by an emergency involving hazardous waste on the branch premises is chemically equivalent to that involving virgin materials of the same chemical or mixture of chemicals, some different emergency procedures do apply. The most likely emergencies involving hazardous waste will be those of a release or fire. The Emergency Coordinator must try to determine by observation, branch records, or analysis (time permitting), the identity of the material involved, the amount, and the potential impact of the release or fire on human health and the environment. The Emergency Coordinator must also determine whether facility personnel are properly equipped and trained to handle the situation or if it is necessary to call in outside contractors or emergency assistance agencies.

If this is a Branch permitted to store hazardous wastes, the secondary containment area will hold materials released from drums during storage. Leaks into the containment dike must be reported to the Emergency Coordinator immediately so that clean-up activities can begin. Liquid materials can be removed and contained in a recovery drum by use of a portable pump. Adsorbent material used to collect the spill may be shoveled into the recovery drum. Spills confined to the secondary containment area are a minor problem. Spills or leaks that occur in satellite accumulation areas, transportation vehicles, or spills that escape from the secondary containment area are potentially very serious emergency situations.

Because the facility normally deals only with containerized wastes, the amount of waste which has potential to be released is relatively small.

In the event the Contingency Plan is implemented, a written report must be filed with authorities in accordance with 40 CFR Part 264.56(J) before normal activities are resumed. The requirements of 40 CFR Part 264.56(J) are listed at the end of the section on reporting.

Hazardous wastes are similar to the hazardous materials handled at the Branch. The hazardous characteristics of the wastes are those of ignitability (flammable) and/or toxicity. Hazardous wastes will usually be in containers (55 gallon

drums), rarely if ever in bulk, and they will either be in transit through the facility (on-site for only several days) or in storage in a specially designed storage facility with a secondary containment system.

Spills of hazardous wastes should be contained using sand and other inert adsorbents. Clean-up of the spill should be conducted in the same manner described earlier for their non-waste equivalents. Persons coming into contact with a spilled hazardous waste should remove contaminated clothing and wash thoroughly with soap and water. Obtain medical attention as soon as possible.

SPECIAL REQUIREMENTS FOR HAZARDOUS WASTE EMERGENCIES

All accumulated liquids and materials collected during clean- up operations must be labeled and marked as appropriate for the waste material. Mixing more than one waste or adding soil during clean-up activities may result in the composition of the waste material being unknown. Samples of resulting materials shall be taken if for any reason the identity of the material is uncertain.

Any equipment used in a clean up activity must be cleaned using materials appropriate to remove the contaminant. The resulting material from this decontamination process shall be placed within the recovery drums for disposal, unless it is deemed incompatible with the other waste materials already contained within the drums. The Emergency Coordinator must ensure that no hazardous wastes are received at the Branch for storage until Branch Operations have been returned to normal.

E. TRANSPORTATION INCIDENTS

When transporting hazardous materials and hazardous wastes, the lading must be checked periodically during transport to ensure its integrity and to safeguard human health and the environment from the release of any hazardous materials or wastes.

Transportation incidents may be classified into two general categories. The two general classifications are: (1) major accidents involving injuries and/or the release of large quantities of hazardous materials, and (2) minor incidents involving the discovery of a "leaker". Obviously, the first class of transportation incident will automatically involve regulatory authorities. The second class of incident may involve regulatory authorities, but will be handled best by VW&R personnel and equipment.

In order to respond to a release of a hazardous material

while on the road, each VW&R vehicle used to haul hazardous materials and wastes should carry the following equipment:

Recovery drum
Fire Extinguisher
Inert absorbent
Neutralizing material (Soda ash, lime)
Shovel
Protective Clothing

Driver Safety Equipment which must be carried in each power unit includes:

Hard hat with full face shield and chin guard First Aid Kit
Fire extinguisher
Full face canister respirator
Goggles
Flashlight
Rubber apron, gloves, boots
Slicker suit (Plastic jacket and trousers)
Plastic sleeves
Eye and skin neutralizing solution
Reflective triangles

SECTION VI. EMERGENCY PROCEDURES

A. FIRE

It is very important that all employees never forget that fire fighting requires PROFESSIONAL action. The flammable materials at this Branch can be explosive and extremely dangerous in a fire. Employees discovering a fire are instructed to always alert the Emergency Coordinator first, and then try to control/contain the fire, but only if it is safe to do so.

In the event of a fire, branch personnel will follow this procedure:

EMERGENCY PROCEDURES:

1. Alert the Emergency Coordinator and give the following information:

Your name

Location of the fire

Need for fire truck, ambulance, police or other emergency equipment.

The Emergency Coordinator will call for assistance from the appropriate local emergency services agencies if he/she deems such assistance to be required.

- 2. If in the judgment of the Emergency Coordinator the fire situation requires evacuation, he/she will sound the alarm either verbally, telephone page, or predesignated alarm.
 - a. Upon hearing the alarm, all personnel are to leave the premises by the nearest safe exit and report to the Assembly Point Leader(s).
 - b. Assembly Point Leaders should turn off main power switches in their buildings and close doors and windows if there is time to do so safely.
 - c. Vehicle and fork truck operators will clear their equipment from the aisles and exits and shut off engines.
 - d. First Aid Teams and Fire/Spill Control Teams should bring emergency equipment to the assembly point area and await instructions from the team leaders and the Emergency Coordinators.
- 3. If evacuation is not necessary, First Aid Teams should

be alerted and be prepared to assist in the emergency. Fire Control Teams should be assembled and await instructions from the Emergency Coordinator.

- 4. The Emergency Coordinator must assess the various hazards a fire creates and decide how to minimize the risk presented by each one. Consideration must be given to:
 - a. Release of fumes and the possibility of the need to evacuate surrounding areas.
 - b. Potential for explosions and flying debris which could spread the fire off-site or to unaffected areas on-site, and seriously threaten human health and safety.
 - c. The release of other hazardous materials from nearby containers.
 - d. Fire fighting residues which may need to be contained and dealt with as hazardous materials or hazardous waste.
- 5. The Emergency Coordinator must take the necessary measures to attempt to contain and control the fire. These measures include:
 - a. Control ignition sources;
 - b. Determine the chemical and physical properties of the material that is burning;
 - c. Removing other as yet unaffected hazardous materials from the area;
 - d. Shutting down operations, and protecting those areas and items that cannot be moved to safety and that could become dangerous if the fire spreads there;
 - e. Assess the ability of Fire Control Teams to safely contain and isolate the burning material, considering the properties of the material on fire, the fire fighting equipment available, and the intensity of the blaze;
 - f. Assess the ability of Fire Control Teams to safely put out the fire, considering the properties of the material on fire, the fire fighting equipment available, and the intensity of the blaze.
- 6. The Emergency Coordinator must work in conjunction with the local fire department when a fire is too large for

the Fire/Spill Control Team(s) to handle. The following information should be made available to the arriving fire department and other emergency assistance teams:

- Type of material involved;
- b. Other chemicals within the vicinity of the fire;
- c. Measures already taken to control the emergency.
- 7. The Emergency Coordinator must notify the Area and the Region of the incident as soon as it is possible to do so.
- The Emergency Coordinator must provide for treating, 8. storing or disposing of recovered wastes, contaminated soils or water, or any other debris resulting from a fire, release, or explosion at the facility. Precautions must be taken to avoid mixing incompatible wastes and to prevent wastes from contacting incompatible materials. Debris and fire fighting water should be contained and collected in DOT approved Wastes should be separated recovery (salvage) drums. in accordance with the recommended compatibility quidelines specified in the Van Waters & Rogers Inc. Operating Standards Manual, Section 6.1, Exhibit 4. These procedures are shown in Appendix C at the end of this plan.
- 9. All equipment used during the emergency must be cleaned and made fit for use or replaced immediately in order to be prepared for another emergency. Decontamination of equipment shall follow the procedures specified in the Van Waters & Rogers Inc. Operating Standards Manual, Section 6.1, Exhibit 4.

B. SPILLS

In the event of a spill, branch personnel will follow this procedure:

EMERGENCY PROCEDURES:

1. Alert the Emergency Coordinator and give the following information:

Your name;

Location of the spill;

Need for fire truck, ambulance, police or other emergency equipment.

- The Emergency Coordinator will call for assistance from the appropriate local emergency services agencies.
- 2. If in the judgment of the Emergency Coordinator the spill situation requires evacuation, he/she will sound the alarm either verbally, telephone page, or predesignated alarm.
 - a. Upon hearing the alarm, all personnel are to leave the premises by the nearest safe exit and report to the Assembly Point Leader(s).
 - b. Assembly Point Leaders should turn off main power switches in their buildings and close doors and windows if there is time to do so safely.
 - c. Vehicle and fork truck operators will clear their equipment from the aisles and exits and shut off engines.
 - d. First Aid Teams and Fire/Spill Control Teams should bring emergency equipment to the assembly point area and await instructions from the team leaders and the Emergency Coordinators.
- 3. If evacuation is not necessary, First Aid Teams should be alerted and be prepared to assist in the emergency. Spill Control Teams should be assembled and await instructions from the Emergency Coordinator.
- 4. The Emergency Coordinator must assess the various hazards a spill creates and decide how to minimize the risk presented by each one. Consideration must be given to:
 - a. Release of fumes and the possibility of the need to evacuate surrounding areas;
 - b. Potential for fire or explosions if the spilled material is flammable;
 - c. The release of irritating or obnoxious vapors if the spilled material has toxic properties;
 - d. The release of other hazardous materials from nearby containers. And the potential for incompatible materials to commingle and react;
 - e. The potential for spilled liquids to run off-site and contaminate surface waters and soils, or for liquids to contaminate groundwater/drinking water sources;
 - f. Spill control residues which may need to be

contained and dealt with as hazardous materials or hazardous waste.

- 5. The Emergency Coordinator must take the necessary measures to attempt to contain and control the spill. These measures include:
 - a. Stopping the source of the leak or spill;
 - b. Determine the chemical and physical properties of the material that has been spilled;
 - c. Controlling ignition sources;
 - d. Removing other as yet unaffected hazardous materials from the area;
 - e. Shutting down operations, and protecting those areas and items that cannot be moved to safety and that could become dangerous if the spill spreads there;
 - f. Assess the ability of Spill Control Teams to safely contain and isolate the spilled material, considering the properties of the material, the spill control equipment available, and the size of the spill;
 - g. Assess the ability of Spill Control Teams to safely clean-up the spill, considering the properties of the material spilled, the spill control equipment available, and the size of the spill.
- 6. The Emergency Coordinator must work in conjunction with the local emergency services department when a spill is too large for the Fire/Spill Control Team(s) to handle. The following information should be made available to the arriving emergency assistance teams:
 - Type of material involved;
 - b. Other chemicals within the vicinity of the spill;
 - c. Measures already taken to control the emergency.
- 7. The Emergency Coordinator must notify the Area and the Region of the incident as soon as it is possible to do so.
- 8. The Emergency Coordinator must provide for treating, storing or disposing of recovered wastes, contaminated soils or water, or any other debris resulting from a fire, release, or explosion at the facility.

Precautions must be taken to avoid mixing incompatible wastes and to prevent wastes from contacting incompatible materials. Debris and fire fighting water should be contained and collected in DOT approved recovery (salvage) drums. Wastes should be separated in accordance with the recommended compatibility guidelines specified in the Van Waters & Rogers Inc. Operating Standards Manual, Section 6.1, Exhibit 4. These procedures are shown in Appendix C at the end of this plan.

9. All equipment used during the emergency must be cleaned and made fit for use or replaced immediately in order to be prepared for another emergency. Decontamination of equipment shall follow the procedures specified in the Van Waters & Rogers Inc. Operating Standards Manual, Section 6.1, Exhibit 4.

C. TOXIC GAS RELEASES

In the event of a release of a toxic gas, branch personnel will follow these procedures:

EMERGENCY PROCEDURES:

1. Alert the Emergency Coordinator and give the following information:

Your name;

Location of the release;

Need for fire truck, ambulance, police or other emergency equipment.

The Emergency Coordinator will call for assistance from the appropriate local emergency services agencies.

- 2. If in the judgment of the Emergency Coordinator the release situation requires evacuation, he/she will sound the alarm either verbally, telephone page, or pre- designated alarm. An added consideration when dealing with the release of a toxic gas is which way is the wind blowing? Be sure to keep this in mind when calling for an evacuation and setting up first aid stations.
 - Upon hearing the alarm, all personnel are to leave the premises by the nearest safe exit and report to the Assembly Point Leader(s);

- b. Assembly Point Leaders should turn off main power switches in their buildings and close doors and windows if there is time to do so safely;
- c. Vehicle and fork truck operators will clear their equipment from the aisles and exits and shut off engines.
- d. First Aid Teams and Fire/Spill Control Teams should bring emergency equipment to the assembly point area and await instructions from the team leaders and the Emergency Coordinators.
- 3. If evacuation is not necessary, First Aid Teams should be alerted and be prepared to assist in the emergency. Spill Control Teams should be assembled and await instructions from the Emergency Coordinator.
- 4. The Emergency Coordinator must assess the various hazards a release of toxic gases creates and decide how to minimize the risk presented by each one.

 Consideration must be given to:
 - a. Release of a highly toxic gas and the possibility of the need to evacuate surrounding areas which way is the wind blowing?
 - b. Potential for fire or explosions if the released gas is flammable;
 - c. The effect of irritating or obnoxious vapors if the released gas has moderately toxic properties;
 - d. The release of other hazardous materials from nearby containers if a fire is started, and the potential for incompatible materials to commingle and react;
 - e. The potential for the released gas to contaminate surface waters and soils, or for gases to contaminate groundwater/drinking water sources;
 - f. Residues which may need to be contained and dealt with as hazardous materials or hazardous waste.
- 5. The Emergency Coordinator must take the necessary measures to attempt to contain and control the release. These measures include:
 - a. Stopping the source of the release;
 - b. Determine the chemical and physical properties of the gas that has been released;

- c. Controlling ignition sources;
- d. Removing other as yet unaffected hazardous materials from the area;
- e. Shutting down operations, and protecting those areas and items that cannot be moved to safety and that could become dangerous if the release spreads there;
- f. Assess the ability of Spill Control Teams to safely contain and isolate the released gas, considering the properties of the gas, the control equipment available, and the size of the release;
- g. Assess the ability of Spill Control Teams to safely clean-up the release, considering the properties of the released gas, the control equipment available, and the size of the release.
- 6. The Emergency Coordinator must work in conjunction with the local emergency services department when a release is too large for the Fire/Spill Control Team(s) to handle. The following information should be made available to the arriving emergency assistance teams:
 - a. Type of gas released (toxicity and flammability);
 - b. Other chemicals within the vicinity of the release;
 - c. Measures already taken to control the emergency.
- 7. The Emergency Coordinator must notify the Area and the Region of the incident as soon as it is possible to do so.
- 8. The Emergency Coordinator must provide for treating, storing or disposing of recovered wastes, contaminated soils or water, or any other debris resulting from a fire, release, or explosion at the facility. Precautions must be taken to avoid mixing incompatible wastes and to prevent wastes from contacting incompatible materials. Debris and fire fighting water should be contained and collected in DOT approved recovery (salvage) drums. Wastes should be separated in accordance with the recommended compatibility guidelines specified in the Van Waters & Rogers Inc. Operating Standards Manual, Section 6.1, Exhibit 4. These procedures are shown in Appendix C at the end of this plan.
- 9. All equipment used during the emergency must be cleaned and made fit for use or replaced immediately in order

to be prepared for another emergency. Decontamination of equipment shall follow the procedures specified in the Van Waters & Rogers Inc. Operating Standards Manual, Section 6.1, Exhibit 4.

D. HAZARDOUS WASTES

In the event of a release of hazardous wastes, branch personnel will follow these procedures:

EMERGENCY PROCEDURES:

1. Alert the Emergency Coordinator and give the following information:

Your name;

Location of the fire or spill;

Need for fire truck, ambulance, police or other emergency equipment.

The Emergency Coordinator will call for assistance from the appropriate local emergency services agencies.

- 2. If in the judgment of the Emergency Coordinator the fire or spill situation requires evacuation, he/she will sound the alarm either verbally, telephone page, or pre-designated alarm.
 - a. Upon hearing the alarm, all personnel are to leave the premises by the nearest safe exit and report to the Assembly Point Leader(s).
 - b. Assembly Point Leaders should turn off main power switches in their buildings and close doors and windows if there is time to do so safely.
 - c. Vehicle and fork truck operators will clear their equipment from the aisles and exits and shut off engines.
- 3. First Aid Teams should assemble at the assembly point with first aid equipment and await instructions from the First Aid Team Leader(s) and the Emergency Coordinator.
- 4. Spill Control Teams should assemble at the assembly point with fire or spill control equipment and await instructions from the Fire/Spill Control Team Leader(s) and the Emergency Coordinator.

- 5. The Emergency Coordinator must assess the various hazards a fire or spill creates and decide how to minimize the risk presented by each one. Consideration must be given to:
 - a. Release of fumes and the possibility of the need to evacuate surrounding areas;
 - b. Potential for fire or explosions if the material in question is flammable;
 - c. The release of irritating or obnoxious vapors if the material has toxic properties;
 - d. The release of other hazardous materials from nearby containers. And the potential for incompatible materials to commingle and react;
 - e. The potential for spilled liquids to run off-site and contaminate surface waters and soils, or for liquids to contaminate groundwater/drinking water sources;
 - f. Spill and fire control residues which may need to be contained and dealt with as hazardous materials or hazardous waste.
- 6. The Emergency Coordinator must take the necessary measures to attempt to contain and control the fire and/or spill. These measures include:
 - a. Determine the chemical and physical properties of the material that has been spilled or is on fire;
 - b. Stopping the source of the leak or spill or fire;
 - c. Controlling ignition sources;
 - d. Removing other as yet unaffected hazardous materials from the area;
 - e. Shutting down operations, and protecting those areas and items that cannot be moved to safety and that could become dangerous if the spill or fire spreads there;
 - f. Assess the ability of Fire/Spill Control Teams to safely contain and isolate the material, considering the properties of the material, the fire/spill control equipment available, and the size of the fire or spill;
 - g. Assess the ability of Fire/Spill Control Teams to safely clean-up fire and spill residues, considering the properties of the material, the

fire and spill control equipment available, and the size of the fire or spill.

- 7. The Emergency Coordinator must work in conjunction with the local emergency services department when a fire or spill is too large for the Fire/Spill Control Team(s) to handle. The following information should be made available to the arriving emergency assistance teams:
 - a. Type of material involved;
 - b. Other chemicals within the vicinity of the spill or fire;
 - c. Measures already taken to control the emergency.
- 8. The Emergency Coordinator must notify the Area and the Region of the incident as soon as it is possible to do so.
- 9. The Emergency Coordinator must provide for treating, storing or disposing of recovered wastes, contaminated soils or water, or any other debris resulting from a fire, release, or explosion at the facility. Precautions must be taken to avoid mixing incompatible wastes and to prevent wastes from contacting incompatible materials. Debris and fire fighting water should be contained and collected in DOT approved recovery (salvage) drums. Wastes should be separated in accordance with the recommended compatibility guidelines specified in the Van Waters & Rogers Inc. Operating Standards Manual, Section 6.1, Exhibit 4. These procedures are shown in Appendix C at the end of this plan.
- 10. All equipment used during the emergency must be cleaned and made fit for use or replaced immediately in order to be prepared for another emergency. Decontamination of equipment shall follow the procedures specified in the Van Waters & Rogers Inc. Operating Standards Manual, Section 6.1, Exhibit 4.

E. TRANSPORTATION INCIDENTS

Transportation incidents may be classified into two general categories. The two general classifications are: (1) major accidents involving injuries and/or the release of large quantities of hazardous materials, and (2) minor incidents involving the discovery of a "leaker". Obviously, the first class of transportation incident will automatically involve regulatory authorities. The second class of incident may involve regulatory authorities, but will be handled best by VW&R

personnel and equipment.

If a minor release of a hazardous material or waste is discovered during transportation, it is incumbent upon the driver of the transport vehicle to attempt, to the maximum extent practicable, to stop the release and clean-up any spilled substances. During transport, when it is discovered during a routine inspection that a hazardous substance is being released, regardless of the quantity, the following emergency procedures apply:

EMERGENCY PROCEDURES

- 1. The driver should attempt to stop the release or to at least contain the release. Any measures attempted should be done so only if proper safety clothing and equipment is available and there is no risk of injury to the driver.
- 2. Once the release is controlled, the driver shall telephone the Branch Operations Manager as soon as possible and report the incident. This shall occur before the vehicle is moved from the site of the release. The vehicle may be moved if it is necessary to drive somewhere to find a phone.
- 3. The Branch Operations Manager will assess the need to:
 - a. Obtain outside assistance from local Hazmat teams.
 - b. Respond with our own personnel and equipment.
- 4. If a reportable quantity (RQ) amount has been released, the Branch Operations Manager shall contact the Region immediately. The Region will report the spill to appropriate Federal and State authorities.
- 5. If a VW&R Branch is made aware of a transportation incident involving a common carrier carrying VW&R lading within the Branch's territory, the Branch shall prepare to offer any assistance necessary to control the release of hazardous materials to the environment. The Branch Operations Manager, in conjunction with the Region and the common carrier, shall decide if it is necessary to respond to the incident with VW&R personnel and equipment.

If a VW&R vehicle carrying hazardous materials or wastes or a common carrier carrying VW&R lading is involved in a major transportation incident, the following emergency procedures apply:

EMERGENCY PROCEDURES

- 1. If able to do so, the driver should contact local authorities first to summon help for the injured. If there are explosions or hazardous materials are on fire or leaking, this too should be reported to local authorities.
- 2. As soon as it is practicable, the driver involved in the accident shall report the incident to the Branch Emergency Coordinator.
- 3. The Emergency Coordinator or the alternate, in conjunction with the Region (and the common carrier, if applicable), shall decide if it is necessary to respond with VW&R personnel and equipment.
- 3. The Emergency Coordinator or the alternate shall attempt to obtain as much information about the incident as possible concerning the release of hazardous materials, paying particular attention to individual substances involved and the quantities released.

F. NATURAL DISASTER

In the event of a severe storm, tornado, or earth quake, all Branch personnel should take shelter in an interior hallway or room away from windows. In the case of an anticipated natural disaster, such as a predicted flood or hurricane, the major precautions are to evacuate non-essential personnel, to shut-off power supplies to any equipment which does not need to be in operation, and to move any inventory which may be exposed to the full force of the event. There will probably be very little time to react to an earthquake, but Branch personnel should be advised to evacuate the facility and go to the assembly point. In this instance the assembly point should be located in an area of solid ground and free from objects which may collapse on the area.

Hazardous materials and wastes, if threatened by a severe storm event, require particular attention. Inventory must be moved to as safe a location as possible to protect it. If a flood or hurricane force winds are predicted, the Emergency Coordinator or his alternate must consider steps to alleviate potential releases of hazardous substances to the environment. The National Weather Advisory broadcasts should be followed for guidance under these circumstances. The Branch should have available a battery powered radio to insure reception of weather information if normal electrical power is interrupted.

After receiving warning, all hazardous materials and wastes that may be threatened must be moved to a new location that will be above the expected high water level and protected from high

winds that may topple and damage containers. It may be sufficient to load the hazardous materials and wastes into an empty company trailer. This would raise the wastes about four feet off the ground and above flood waters. It will also create a very heavy structure (a trailer full of product) which may be better able to withstand strong winds. If inventory cannot be moved inside, it should at least be moved against a secure structure, such as the warehouse, to protect it from high winds.

If the materials need to be removed from the site, normally, company owned transport would be used if available. If not, a fully licensed hazardous materials transporter may be utilized. Branch manpower to load the inventory into the transport vehicles should be made immediately available.

When warning of a natural disaster is received after normal working hours, the Emergency Coordinator shall locate and call in sufficient manpower to the Branch. The Emergency Coordinator may assist in the loading and driving tasks himself/herself if necessary.

Following any natural disaster the facility, its structures and equipment, must be thoroughly inspected by the Emergency Coordinator before normal Branch operations are resumed. The Emergency Coordinator should pay particular attention to any releases of hazardous materials that need to be remediated, inventory losses which cannot be accounted for, and the integrity of facility structures. If necessary, the Emergency Coordinator may consider contracting with a structural engineer if there are questions about the structural integrity of any buildings, storage tanks, or any other structures which may appear to be unsafe.

F. BOMB THREAT

In the event of a bomb threat phone call, the most important thing to do is to try to keep the caller on the telephone so that the call may be traced. As ridiculous as it may seem, and as hard as it is to do, remain calm and try to obtain the following information:

- a. Note the time of the call;
- Listen for background noises such as music, people talking;
- c. Ask for the location of the bomb and the time it is supposed to detonate.
- d. Ask what kind of bomb it is? What does it look like?
- e. Ask what kind of package it is in?

- f. Does the voice sound drugged or drunk? What sex does the voice sound like and how old does it sound?
- q. Ask for the caller's name and address.

These questions sometimes yield valuable information and will detain the caller so a trace may be attempted. To trace a call, alert as quickly as possible another employee to call the telephone company on another line while the caller is detained on the first line. Speed is important because it may take several minutes to trace a call. Call the operator and explain the situation. At the same time, have another employee call the Emergency Coordinator. The Emergency Coordinator should call the police to advise them of the threat and obtain their assistance.

EMERGENCY PROCEDURES:

- a. DON'T TOUCH, HANDLE, OR MOVE ANY SUSPICIOUS OBJECT!!
- b. Order an evacuation of the facility;
- c. Wait for the police to arrive and let them make a search for the bomb.

SECTION VII. EVACUATION of the BRANCH

The facility evacuation plan is to be implemented when it becomes necessary to evacuate the facility due to an emergency which threatens human health and safety. The signal for evacuation should be given by the Emergency Coordinator or his/her alternate. Evacuation should always be carried-out so that employees are not exposed to the emergency situation. Evacuation may be necessary to prevent personal injury because of explosions, fires, large spills, toxic gas releases, severe weather or bomb threats.

The Branch emergency alarm system is a fire bell. Bells are located in strategic locations throughout the facility, both inside the buildings and outside, in a configuration such that it can be heard everywhere. The alarm is activated by fire alarm switches, or the safety showers located in the warehouse, the repackaging buildings, and adjacent to the hazardous waste storage unit. The use of this alarm system will summon local emergency services agencies who will provide assistance.

Whenever there is an imminent or actual emergency situation within the facility requiring evacuation of the premises, the Emergency Coordinator or his/her alternate will immediately:

- 1. Notify all building occupants by sounding the branch alarm system. The branch alarm system is a fire alarm bell. Evacuation may also be initiated by voice, by telephone, or by sounding an alternate alarm (an air horn) if necessary.
- 2. Assess the nature of the emergency and consider contacting outside emergency services agencies.

Personnel operating electrical equipment at the time of the alarm will turn off and unplug the machine if possible. Vehicle and Lift truck operators will clear their machines from all aisles and exits if time permits. Individuals who do not have emergency response duties are trained to evacuate and gather at the designated branch assembly point. Individuals with emergency response duties are trained to respond to the alarm as detailed below.

A. EMERGENCY RESPONSE TEAMS RESPONSIBILITIES

Assembly Point Leader(s)

The Assembly Point Leader(s) should be the last to exit and should turn off electricity at the main switch for the building they are in and close doors and windows before they exit. This should be done only if it is safe to do so.

All personnel with no assigned duties will evacuate by the nearest marked exit and proceed to the Assembly Point via the safest route, reporting there to the Assembly Point Leader. The Assembly Point Leader will take a head count to insure that all non-essential personnel have evacuated the facility. If an individual is unaccounted for at the assembly point, the assembly point leader will notify the Emergency Coordinator. The Emergency Coordinator will assess the situation and initiate actions to locate the missing employee. A list of all persons employed at the Branch should be maintained (kept very current) and filed in Appendix B. After the emergency is resolved, the Assembly Point Leader, after consultation with the Emergency Coordinator, will release personnel to return to work.

First Aid Team(s)

First Aid Team Leaders should take a First-Aid Kit with them to the assembly point and be prepared to assist the injured. Depending upon the size of the Branch, it may be advisable to have one first aid team stationed at the assembly point that is charged with administering first aid and calling for outside medical assistance when necessary. Another first aid team should be in charge of rescuing missing personnel. This team should have a stretcher and personal protective gear with them, and operate under the direction of the Emergency Coordinator.

Fire/Spill Control Team(s)

Fire/Spill Control Teams should assemble at the evacuation point so that all personnel can be accounted for before any emergency procedures are begun. If it is possible to do so in a safe manner, members of these teams should try to bring with them a fire extinguisher and personal protective equipment. Once assembled, these teams should await instructions from the Emergency Coordinator. There should be no attempt at fire fighting or spill control without first receiving instructions from the Emergency Coordinator.

Further action will depend on the nature of the emergency and will be taken under the direction of the Emergency Coordinator.

B. EVACUATION ROUTES AND ASSEMBLY POINT

Evacuation route diagrams must be mounted at key locations throughout the Branch. The diagrams must be easy to read and must identify the location of each diagram ("you are here") and the exits nearest the diagram. The diagram must also show the location of the assembly point and the best route to get there.

Evacuation routes and the assembly point for this Branch are shown on the diagrams in Appendix B.

SECTION VII' EMERGENCY EQUIPMENT

There are three basic groups of emergency equipment to be maintained at each Branch. These groups include on-site equipment located at various strategic points throughout the Branch, specific hazardous materials emergency response kits, and safety and hazardous materials spill control equipment carried on company vehicles.

A. EQUIPMENT LISTS

1. Certain equipment is to be stationed at fixed locations throughout the Branch:

Fire Extinguishers
First Aid Kits
Respirators
Protective Clothing
Self Contained Breathing Apparatus (SCBA)
Shovels
Brooms
Recovery Drums
Absorbent Materials/Diking Materials
Neutralizing Agents
Emergency Response Kits A, B and C

Depending upon the Branch, there may be Chlorine Emergency Response Kits on-site as well. Branches handling cyanide compounds and/or cyanide based pesticides must have on-hand a cyanide poisoning antidote kit.

- 2. Tools and equipment used during emergencies are kept in a secure location in a sealed metal box marked Emergency Response Kits A, B and C. The Emergency Response Kits are kept sealed and are to be used only for emergencies. After use the boxes are inventoried and supplies replaced as needed. The boxes are resealed after inventory and resupply.
- 3. Additional emergency response equipment is kept on hand for off-site emergencies and transportation incidents:

Recovery drums
Fire Extinguishers
Bags of inert absorbent
Neutralizing materials (Soda ash, lime)
Shovels
Protective Clothing

Driver Safety Equipment which must be carried in each power unit includes:

Hard hat with full face shield and chin guard First Aid Kit
Fire extinguisher
Full face canister respirator
Goggles
Flashlight
Rubber apron, gloves, boots
Slicker suit (Plastic jacket and trousers)
Plastic sleeves
Eye and skin neutralizing solution
Reflective triangles

The contents of the Emergency Response Kits A, B and C are listed in Appendix C.

B. LOCATION of EQUIPMENT

The location of emergency equipment at this Branch is indicated on the drawing in Appendix C.

C. INSPECTIONS of EQUIPMENT

All emergency equipment is to be checked periodically and the inspection documented as part of the Branch maintenance responsibilities. The items to be inspected and the frequency they are to be inspected are listed on the inspection schedule which follows this page. Documentation of inspections of emergency response equipment is to be kept in the Safety & Compliance Review - Documentation Manual.

INSPECTION SCHEDULE Overall Facility

Area/Equipment	Specific Item	Types of Problems	Frequency of Inspection				
Container Storage			- 12				
Areas	General area	Leaks, spills	Daily				
	Container placement and stacking	Aisle space	Weekly				
	Sealing of Containers	Open bungs, lids	Weekly				
	Container labels	Missing or wrong information	Weekly				
	Base	Cracks, erosion	Daily				
	Berm	Cracks, erosion	Daily				
	Warning signs	Damaged, faded	Weekly				
	Debris, refuse	Aesthetics	Weekly				
	Accumulated liquid	Contamination	Daily and after rain or snow				
Solvent Filling Room	Floors Waste Accumulation	Spills Closure of Drums	Daily Daily				
Tank Farm	Containment Dike	Spills Cracks/Corrosion	Daily Daily				
Security Devices	Facility fence	Corrosion, damage	Daily				
	Main Gate	Damage, lock	Daily				
Loading and Unloading Areas	Surface areas	Spills, deterioration	Daily				
	Dock bumpers	Damage	Daily				
Safety and Emergency	Emergency shower and eye wash	Water pressure, leaks, drainage	Monthly				
Equipment	Industrial absorbent and shovels	Out of stock	Monthly				
	Salvage drums	Out of stock	Weekly				
	Face shields	Broken or dirty	Monthly				

Area/Equipment	Specific Item	Types of Problems	Frequency of Inspection				
Safety and Emergency Equipment	Chemical cartridge respirators with cartridges for organic solvents	Spent solvent, seals, dirt	Monthly / after each use				
	Emergency alarm (air horn)	Charge, sound	Weekly				
	Emergency Response Kits A, B, and/or C	Inventory and availability	Monthly / as used				
	Fire extinguishers	Recharging	Monthly / after each use				
	Fire alarm system	Power failure	Per NFPA				
	Telephone system	Power failure	Per NFPA				
	Emergency lighting system	Battery failure	Per NFPA				
	Portable pump	Power, clogging	Monthly				
	First Aid equipment and supplies	Out of stock or inoperative	Monthly				
	Cyanide poisoning Antidote Kit	Stocked, current	Monthly				
	Protective clothing	Holes, wear and tear	Weekly / as used				
	Decontamination wash room	Water pressure, leaks, drainage	As used				
	Fork lifts	Brakes, tires, horn, lights, hoist, tilt, forks					
		steering, battery,	Oll				

SECTION IX. FIRST-AID / MEDICAL ASSISTANCE

During an emergency there will be two types of medical situations which may arise. One is physical trauma such as cuts, broken bones, and burns. The other is exposure to toxins. Exposure to a toxic chemical may result in noticeable symptoms (such as those from acute cyanide poisoning) or more subtle, less noticeable symptoms (such as those from the slow build-up of lead levels in the body).

When providing first-aid for a victim in an emergency situation there are several basic things to remember:

- a. If the victim is unconscious, first check to see if there is a pulse and if they are breathing. If not, have qualified individuals administer CPR.
- b. If the victim is not mobile, always check for broken bones before attempting to move them. If the victim is in a safe area, do not move them wait for professional medical help.
- c. Be aware of the symptoms of shock. Victims, regardless of there apparent condition, should be allowed to find a comfortable position, kept calm, kept warm, and have their feet elevated slightly above their heads.

First-aid should be administer to victims of physical trauma by branch personnel trained in first-aid techniques. The First-aid Team Leader must be able to report to arriving professional medical assistance teams on the current status of any victims at the site. Reporting should be made in order of priority -- the most seriously injured individuals first.

Exposures to toxic materials during emergency situations may cause illness and injury. Symptoms of exposure to a toxic chemical may be acute, causing difficulty in breathing, irregular heartbeat, tremors, and discoloration of the skin. Exposure to a chemical that is not acutely toxic may cause, dizziness, slurred speech, a loss of coordination, and a poor sense of judgement. The symptoms of exposure will vary from situation to situation and depend upon the following factors:

- a. The toxic properties of the chemicals to which one is exposed.
- b. The length of exposure.
- c. The current health status of the individual exposed.

If the chemical a victim has been exposed to is known, the

Material Safety Data Sheet (MSDS) for it should be consulted for emergency medical advice. In most, if not all, situations of exposure the following emergency procedures should be implemented:

- a. Remove the victim from the exposure get them into fresh air.
- b. Remove constrictive and contaminated clothing.
- c. Administer oxygen if available.

In all emergency situations be sure to call for professional medical assistance as soon as possible.

SECTION X. DECONTAMINATION / RESTORATION

Decontamination - the process of removing or neutralizing contaminants that have accumulated on personnel and equipment - is critical to health and safety in emergency situations. Decontamination protects personnel from hazardous substances that may contaminate and eventually permeate protective clothing, respiratory equipment, tools, vehicles, and other equipment used during an emergency. It also helps prevent the potential mixing of incompatible materials, and it protects human health and the environment by preventing uncontrolled migration of contaminants from the site of the emergency.

A decontamination area should be established in an area that will minimize the exposure of uncontaminated employees and equipment to contamination. The area must be far enough away from the scene of the emergency to avoid contamination, yet close enough to the scene to be readily available when needed and not cause off-site contamination.

A decontamination area should consist of, at a minimum, a change room where contaminated clothing may be removed and left behind for cleaning, and a shower where personnel involved in the emergency may be decontaminated. When decontaminating protective clothing and emergency equipment, materials used in the decontamination process (water, rags, soap solutions) must be contained and disposed of properly. Some protective clothing and emergency equipment may not be cleanable or not be worth cleaning due to time, expense, or the generation of more hazardous waste than is necessary. Consideration may be given to simply properly disposing of clothing and equipment rather than cleaning it.

All equipment and materials used for decontamination must be cleaned and/or disposed of properly. All decontamination process effluents must be collected and contained. Consideration must be given to whether or not rinsewaters, tools, and other materials and equipment used in the decontamination process are hazardous wastes.

The facility must be decontaminated and restored to a healthy and safe working environment before normal branch operations are resumed. All structures, equipment, and materials effected by the emergency must be decontaminated. All structures, equipment, and materials no longer suitable for their originally intended purpose (in an unsafe condition) must be removed, secured, or made safe. All safety equipment and personal protective gear used in the emergency must be restocked, inspected, and prepared for use in a subsequent emergency.

SECTION XI. EMERGENCY SITUATION TRAINING

All employees of the branch are to be familiar with the contents of this plan. They must know the primary and secondary exits within their respective work areas, as well as the location of fire extinguishers and first aid kits which they may utilize in an emergency. This training is to be documented and reviewed at least annually.

A. CLASSROOM

All branch personnel with hands on contact with hazardous chemicals and hazardous wastes are to receive appropriate training from Regional Operations Staff. This will include, at a minimum, the Branch Operations Manager and all warehousemen and drivers.

All new employees are to receive this training within six weeks of hire. Training is to be repeated at least annually. A copy of the training outline is included at the end of this section. Documentation indicating that annual training has been conducted at the Branch should be kept in the Safety and Compliance Review - Documentation Manual.

Specific branch personnel are to be trained in:

First Aid
Use of respirators and SCBA
Use of fire extinguishers
Spill control

B. PRACTICE DRILLS

Practice drills of the Contingency Plan are to be conducted at least annually. These drills are to be documented and should include a description of each test, its results, and recommendations for any changes or improvements. Different situations should be tested from time to time and certain parameters measured to determine the effectiveness of the plan. At a minimum, the following situations and measures should be simulated and the results of each test recorded:

1. Situation: Evacuation due to fire.

Measures: Time it takes to evacuate; time it takes

to obtain head-counts of personnel.

2. Situation: Explosion with injuries and missing

personnel.

Measures: Time it takes to evacuate; time it takes

to obtain head-counts of personnel; capability of first-aid team(s) to attend to injured; capability to find missing personnel.

3. Situation:

Spill of a barrel of ignitable/toxic

(F005) hazardous waste.

Measures:

Capability of Fire/Spill Control Team to

respond; adequacy of

equipment/supplies/techniques; efficacy

of personal protective gear.

4. Situation:

Fire in an isolated barrel of flammable

material.

Measures:

Capability of Fire/Spill Control Team to

respond; adequacy of

equipment/supplies/techniques; efficacy

of personal protective gear.

Documentation of practice drills should be kept in the appropriate section of the Safety/Compliance Review - Documentation Manual.

CONTINGENCY PLAN TRAINING OUTLINE

I. EMERGENCY PLANNING - REGULATIONS

- A. SARA TITLE III
- B. HAZARD COMMUNICATION STANDARD OSHA
- C. HAZARDOUS WASTE RCRA

II. POTENTIAL HAZARDS

- A. TOXICITY
 - 1. Acute
 - 2. Chronic
- B. EXPLOSION
- C. FIRE
- D. SPILL / LEAK
- E. GAS FUMES (toxic)

III. EMERGENCY RESPONSE - RESPONSIBILITIES

- A. EMERGENCY COORDINATOR
- B. ALTERNATE EMERGENCY COORDINATOR
- C. EMERGENCY ASSISTANCE
- D. EVACUATION
 - 1. Assembly Point Leaders
 - 2. First Aid Teams
- E. FIRE TEAMS
- F. SPILL TEAMS

IV. SPECIAL INSTRUCTIONS

- A. TOXIC GASES
- B. CORROSIVES (CAUSTICS)
- C. FLAMMABLES AND COMBUSTIBLES
- D. REACTIVES AND OXIDIZERS

V. CLEAN-UP

- A. COMPATIBILITY OF WASTES and RESIDUES
- B. RESTORATION of FACILITY
 - 1. Grounds and Structures
 - 2. Safety Equipment
 - 3. Operating Equipment

VI. REPORTING

- A. REGIONAL OFFICE
- B. REGULATORY AUTHORITIES

SECTION XII. REPORTING

The Emergency Coordinator must report on the emergency as soon as possible after the emergency has been resolved.

- 1. Contact the Area and Regional Operations Staff as soon as possible (immediately).
- 2. The Region will notify the appropriate State and Federal regulatory authorities of the incident.
- 3. Complete an Unusual Incident Report and file the report with the Region.
- 4. Required written reports will be submitted by the Region in conjunction with the Emergency Coordinator.
- 5. If reportable quantities of hazardous materials are released, the report of the release will be made to the National Response Center, the State Emergency Response Center and the proper State and local authorities (the Fire Department and the Local Emergency Planning Commission) by the Region.
- 6. The required notification to local, State, and Federal regulatory authorities that the branch has returned to normal operations and is in compliance with all permit requirements must be made before operations resume. This notification will be made by the Region in conjunction with the Emergency Coordinator.
- 7. A report on the implementation of the contingency plan, if the plan is implemented for an emergency involving hazardous wastes, must be submitted to the appropriate Federal and State regulatory agencies. The report will be submitted by the Region in conjunction with the Emergency Coordinator. The format and content of the report will be that required by the regulations (see reporting requirements at the end of this section).

CONTINGENCY PLAN REPORTING REQUIREMENTS

Hazardous Waste (OAC 3745-54-56(J) (40 CFR PART 264.56(J))

The owner/operator must note in the operating record the time, date, and details of any incident that requires implementation of the Contingency Plan. Within 15 days after the incident, he/she must submit a written report on the incident to the Regional Administrator and the Director of the appropriate State agency regulating hazardous wastes. The report must include:

- Name, address, and telephone number of the owner or operator;
- 2. Name, address, and telephone number of the facility;
- 3. Date, time, and type of incident (e.g., fire, explosion);
- Name and quantity of materials involved;
- The extent of injuries, if any;
- 6. An assessment of actual or potential hazards to human health and the environment, where this is applicable; and,
- 7. Estimated quantity and disposition of recovered material that resulted from the incident.

SECTION XIII. PRESS RELATIONS

During an emergency, especially a visible one involving local emergency response agencies (fire and police departments) and crowds of spectators, local news media representatives will be sure to be in attendance. They will want to know who, what, where, when, how, and why. The on-scene spokesperson for the Branch should be the Branch Manager.

Answer all questions openly and honestly if you know the answer. If you do not know the answer, say so, and feel free to refer the matter to the Regional Operations Staff or the Home Office. Answer only the question put to you. Do not volunteer information and do not speculate about anything. There is nothing wrong with admitting you do not know the answer to something, but do not withhold anything that you do know.

Always remain positive. It is important to remain in control of emergency situations and to act like you know what you are doing. After all - you do!

It is the responsibility of the local emergency planning committees to share this plan with the citizens of the community. Be prepared for loaded questions concerning the implementation of the plan, and feel free to refer them to the Regional Operations Staff for additional information.

An educated public is our best friend.

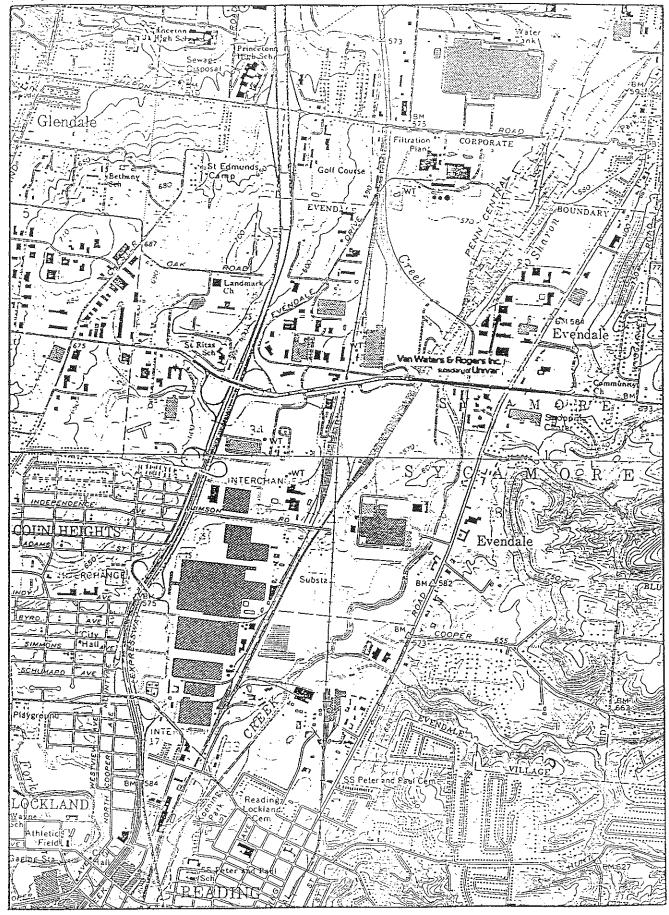
APPENDIX A. SITE MAPS

- Vicinity Map (Showing Location of Facility in Metropolitan Area)
- Facility Map (Showing General Locations of Hazardous Materials)



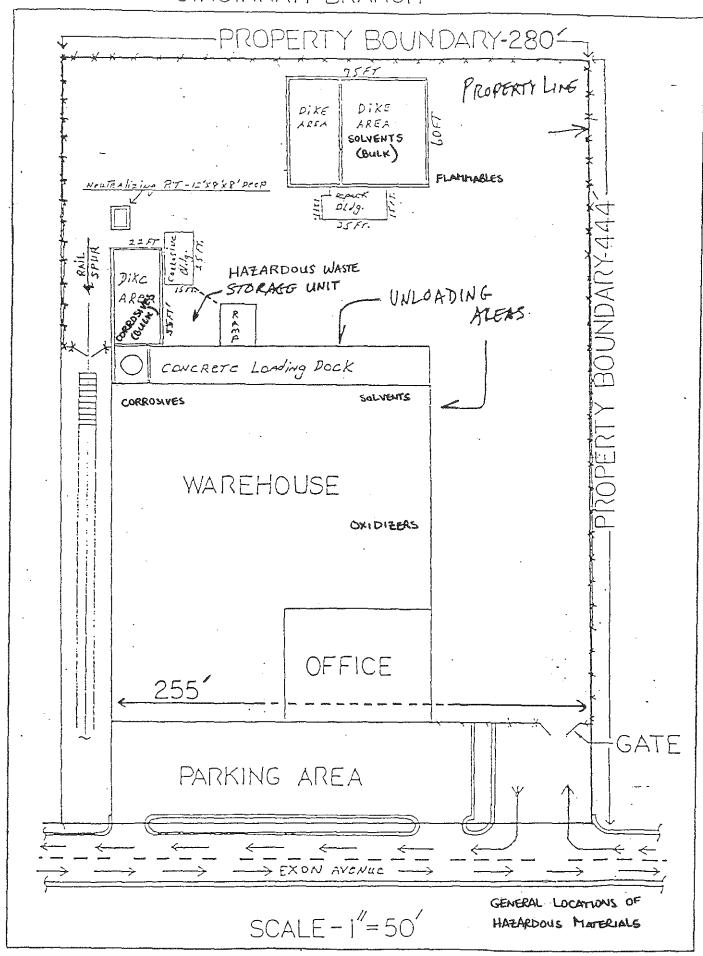
Cincinnati, Ohio General Vicinity Map

Cincinnati, Ohio Greater Metropolitan Area



Van Waters & Rogers Inc. Cincinnati Branch OHD 002 899 847

Cincinnati East, OH U.S.G.S 7.5 Quadrangle



APPENDIX B -- Employee List

Branch Personnel List

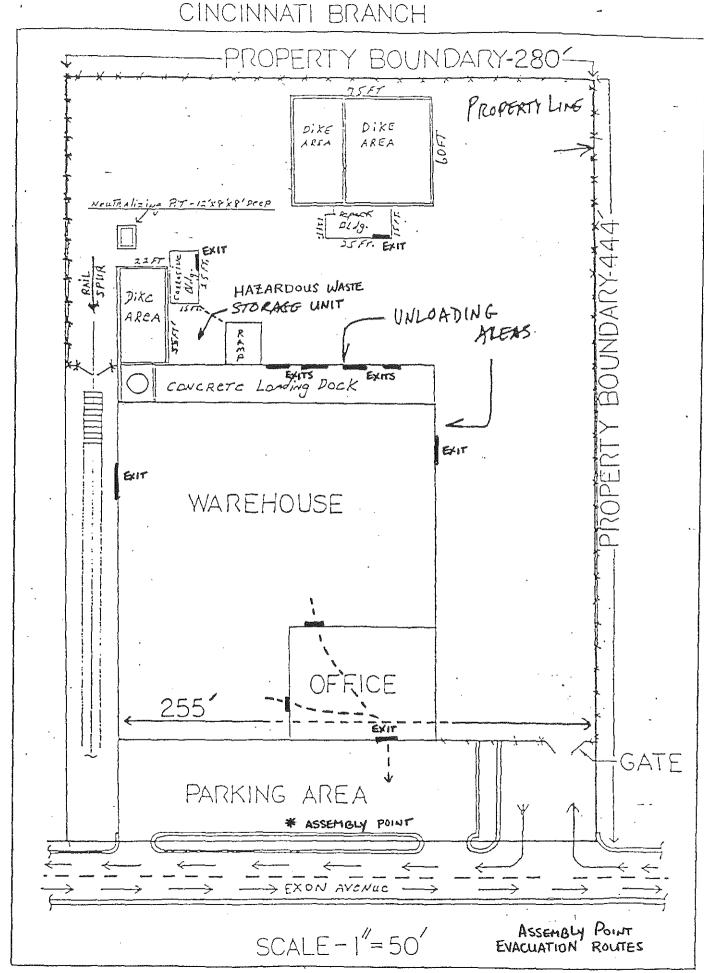
OFFICE

WAREHOUSE

REPACK

TRUCK DRIVERS

APPENDIX B -- Evacuation Routes Map(s)



APPENDIX C -- EMERGENCY EQUIPMENT

- List of Emergency Equipment (Kits A, B, and C)
- 2. Location Map of Emergency Equipment
- 3. Decontamination Procedures

PACKING LIST AND REORDER GUIDE FOR VAN WATERS & ROGERS Type A RESPONSE KIT

TO REORDER ANY ITEM IN THE KIT SIMPLY IDENTIFY IT BY IDENTIFYING THE KIT TYPE (IN THIS CASE "A") AND THE NUMBER OF THE ITEM ON THE LIST. [E.G., TO ORDER A NEW NON-SPARKING PIPE WRENCH, IDENTIFY IT AS B-39]

MAIL YOUR ORDER ALONG WITH YOUR PURCHASE ORDER NUMBER TO:

ROOT BROTHERS MFG. AND SUPPLY CO., INC. 10317 S. MICHIGAN AVE. CHICAGO, IL 60628

OR TELEPHONE YOUR ORDER TO (312) 264-5000

Item #	Ouantity	Description
1	1 ea	Aluminum box, 3'd x 3'h x 4' w/handles and snaps
2	4ea	Shovel, Non-sparking, D-handle, flat blade suitable for digging or scooping, S-84
3	1ea	Pipe Wrench, Bryllium, non-sparking, 18"
4	2ea	Rake, 14 tooth, Non-sparking w/60" handle; handle will be cut to fit in box R-10
5	lea	Pick, 20" length, Non-sparking w/handle P-1
6	lea	Axe, single bit, 4 lb, non-sparking, w/handle A-5
7	6ea	Lantern, 6v, anti-explosion w/circuit breaker bulb #2206
8	12ea	Battery, 6v, Alkaline #529
9	3suit	Protective Suit, PVC coated polyester fabric, jacket w/detachable hood, bib overall w. fly (2 sz lg, lsz x 1)1035/1037
10	3pr	Boot, pull over shoe, knee high, yellow (2sz 10, 1sz 11) #91
11	3pr	Boot, over sock, steel toe, rubber, black #21

Kit A (continued)
6/86

Item #	Quantity	Description
12	12pr	Glove, chemical resistant, 14°, gauntlet HD, flexible, #1814
13	6 pr	Goggles, non-fogging, clear, SC-2
14	3 ea	Hard Hat w/face shield attachment & face shield, OSHA APPROVED, 45-087-493
15	3ea	Full face respirator equipped for acid gas, organic vapor, dust & mist w/internal nose piece, #1694-G104-F100
16	12ea	Apron, protective, disposable
17	3ea	Squeegee, extra h.d. 24" w/60" handles 3-24
18	3ea	Push broom, h.d. 18" w/screw in handle 108-18
19	lea	Hand Truck, w/lrg 10" x 2.75" wheel, 400# capacity #40107
20	lea	First Aid Kit for 25 people, #530
21	lea	<pre>Hand pump, 600 GPH, Viton Diaphragm Delrin body w/10' of suction hose & 10' of discharge hose</pre>
22	1kit	Viton complete pump repair kit
23	100ft	Rope, 3/4" Manila, 100'
24	2ea	Fire Extinguisher, 10# ABC
25	lea	Trouble light, DC powered, #05917
26	lea	Drum pump, polyethylene
27	6ea	#15A rubber tie down straps
28	12pr	Visitors specs, VS-1
29	2rl	Duct tape, 2" x 60yd, #615

Rit A (continued) 6/86

Item #	Quantity	Description
30	lrl	Wire, 18GA, approx. 830 ft
31	12ea	Hose clamps, SS, #40H (for 2" ID hose)
32	lea	Tool box w/hand tools and socket set (NOT non-sparking)

A FEW ITEMS IN THIS KIT NEED INSPECTION OR REPLACEMENT ON A SCHEDULED BASIS:

ITEM A-8 SHOULD BE REPLACED ON AN ANNUAL BASIS.

ITEM A-24 MUST BE INSPECTED MONTHLY BY QUALIFIED PERSONNEL AND RECHARGED AS NECESSARY.

THE FIRE EXTINGUISHERS ARE DESIGNED FOR MOUNTING ON THE OUTSIDE OF THE KIT:

ON THE RIGHT SIDE OF THE KIT THERE ARE TWO SLOTTED SCREWS. TO MOUNT ITEMS A-24 SIMPLY TAKE THE EXTINGUISHERS OUT OF THE KIT, REMOVE THE BRACKET FROM THE EXTINGUISHER BOX, REMOVE THE SCREW FROM THE RIGHT SIDE OF THE BOX, MOUNT THE BRACKET WITH THE SCREW THAT YOU REMOVED, AND HANG THE FIRE EXTINGUISHER.

THIS KIT IS DESIGNED TO BE SIMPLE AND EASY TO USE. IT IS FOR USE IN EMERGENCIES ONLY. IT IS NOT POSSIBLE TO COVER EVERY SITUATION THAT MIGHT ARISE. MANY OF THE ITEMS ARE DESIGNED FOR SHORT TERM USE. THIS KIT IS NOT DESIGNED FOR SUSTAINED USE IN HAZARDOUS SITUATIONS WITH DANGEROUS MATERIALS.

WARNING! TOOLS AND EQUIPMENT IN THIS KIT WILL CAUSE SPARKS. NON-SPARKING TOOLS HAVE BEEN SPECIFICALLY IDENTIFIED.

Packing List and Reorder Guide for VAN WATERS & ROGERS Type B Response Kit

To reorder any item in the kit simply identify it by identifying the KIT TYPE (in this case "B") and the number of the item on the list. [e.g., to order a new non-sparking pipe wrench, identify it as B-39]

Mail your order along with your purchase order number to:

Root Brothers Mfg. and Supply Co., Inc. 10317 S. Michigan Ave. Chicago, IL 60628 or telephone your order to (312) 264-5000

Item_#	Quantity	Description
1	lea	Aluminum box, 3'd x 3'h x 4' w/handles and snaps
2	1ea	Pump, Air PolyPro 1" x 1" w/flanges, gasket & bolts M2/P0
3	1kt	Repair kit, complete, for above pump
4	lea	125lb. pressure regulator for pump
5	2ea	Hose, 1" EDPM/Nitrile, with Brass 1" NPT Fittings, 50'
6	lea	Hose, 1/4" air, with fittings to hook up to air supply on tractor or compressor
7	2rl	Polyethylene Sheeting 2 RL 8 x 100, 4 Mil
8	2ea	Boom, Arsorb, Floating 10' x 5"
9	2ea	Jack. 12" Lift, 22" long L5J5 Hydraulic, Long Stroke
10	2ea	Strap, Tank Truck, Lift, EE2-812 x 20° Nylon Basket 53800#
11	2ea	Rope, 100° Manila, CN 121
12	lea	Crow Bar, #160, Pinch point

Kit B (continued)
6/86

<u>Item #</u>	Quantity	Description
13	2ea	Wrecking bar, #166, 3/4" x 36" x 5 1/4"
14	lea	Hammer, Brass 2#
15	lea	Hammer, Drilling 4#
16	1ea	Pipe Wrench 14" Rigid Straight
17	12pr	Protective Glove, chemical resistant, 14" gauntlet, HD, flexible
18	2ea	Pipe Wrench 18" Rigid Straight
19	lea	Pipe Wrench 24" Rigid Straight
20	lea	Hack Saw w/Blades, MF #48 + 6 18T Blades
21	1ea	Come-Along, 2T, #10502
22	2ea	Rubber Sheet 2 x 2 x 1/8"
23	lea	Chain, 30° x 1/2" Proof Coil w/l grab hk & 1 slip hk, & 2 shakles
24	2ea	Turnbuckle 1/2" x 12" Forged J&J
25	2ea	Gas Mask, Organic Vapor, Acid Gas Ammonia #101 w/2 Cannister #2200
26	_ 2ea *	Protective Suit, Boots, Gloves & Goggles DIA 1037, 1035, ES 287, DIA #91
27	2ea	Fire Extinguisher, 4A60BC
28	2ea	Triangle Marker (set) HWT-3
29	lea	First Aid Kit for 25 persons
30	2ea	Bung Wrench, 10 way, non spark #DPW
31	2ea	Spigot, PVC lea 2" & lea 3/4" #1155
32	2ea	Eyewash, Isotonic
33	lea	Drum pump

Kit B (continued)
6/86

Item #	Ouantity	<u>Description</u>
34	2ea	Broom, Push w/Handle \$108-18
3 5	2ea	Wrench, Adj Crescent 10" #77-10
36	4ea	Hazard Label Set 4 labels/set
37	1ea	Protective Hand Cream 6 oz.
38	2rl	Duct tape, 2" x 60 yd
39	lea	Non-sparking bryllium pipe wrench

A FEW ITEMS IN THIS KIT NEED INSPECTION OR REPLACEMENT ON A SCHEDULED BASIS:

ITEM B-27 MUST BE INSPECTED MONTHLY BY QUALIFIED PERSONNEL AND RECHARGED AS NECESSARY.

THE FIRE EXTINGUISHERS ARE DESIGNED FOR MOUNTING ON THE OUTSIDE OF THE KIT.

ON THE RIGHT SIDE OF THE KIT THERE ARE TWO SLOTTED SCREWS. TO MOUNT ITEMS A-24, SIMPLY TAKE THE EXTINGUISHERS OUT OF THE KIT, REMOVE THE BRACKET FROM THE EXTINGUISHER BOX, REMOVE THE SCREW FROM THE RIGHT SIDE OF THE BOX, MOUNT THE BRACKET WITH THE SCREW THAT YOU REMOVED, AND HANG THE FIRE EXTINGUISHER.

THIS KIT IS DESIGNED TO BE SIMPLE AND EASY TO USE. IT IS FOR USE IN EMERGENCIES ONLY. IT IS NOT POSSIBLE TO COVER EVERY SITUATION THAT MIGHT ARISE. MANY OF THE ITEMS ARE DESIGNED FOR SHORT TERM USE. THIS KIT IS NOT DESIGNED FOR SUSTAINED USE IN HAZARDOUS SITUATIONS WITH DANGEROUS MATERIALS.

WARNING! TOOLS AND EQUIPMENT IN THIS KIT WILL CAUSE SPARKS. NON-SPARKING TOOLS HAVE BEEN SPECIFICALLY IDENTIFIED..

Kit C

Packing List and Reorder Guide for VAN WATERS & ROGERS Type C Response Kit

TO REORDER ANY ITEM IN THE KIT SIMPLY IDENTIFY IT BY IDENTIFYING THE KIT TYPE (IN THIS CASE "C") AND THE NUMBER OF THE ITEM ON THE LIST. E.G., TO ORDER A NEW OXYGEN REGULATOR IDENTIFY IS AS C-3.

MAIL YOUR ORDER ALONG WITH YOUR PURCHASE ORDER NUMBER TO:

ROOT BROTHERS MFG. AND SUPPLY CO., INC. 10317 S. MICHIGAN AVE. CHICAGO, IL 60628

OR TELEPHONE YOUR ORDER TO (312) 264-5000

TYPE C EMERGENCY KIT CONSISTING OF:

Item #	Ouantity	Description
1	1 EA	2 x 2 x 4 Aluminum Removable Top
2	2 EA	Oxygen masks w/tube
3	1 EA	OXYGEN REGULATOR DUAL MASK
4	1 EA	LANTERN 6V ANTI-EXPLOSION #2206
5	2 EA	BATTERY ALKALINE 6V FOR LANTERN #529
6	2 EA	PROTECTIVE SUITS #1036/37
7	2 PR	PROTECTIVE GLOVES 14" GAUNTLET #1814
8	2 PR	LEATHER GAUNTLET GLOVES
9	1 EA	Tool Box \$20415
10	l RL	COPPER TUBE, 50° x 3/8°, TYPE K
11	1 EA	FLARE TOOL KIT #155
12	1 EA	Tubing Cutter #128
13	2 EA	CHLORINE WRENCHES
14	2 EA	YOKES AND ADAPTORS
15	2 EA	TONGUE VALVES

Kit C (continued)

CONTINGENCY PLAN

<u> Item #</u>	Ouantity	Description
16	2 EA	CYLINDER VALVE
17	50 EA	LEAD WASHERS
18	1 EA	WRENCH 10" ADJUSTABLE #7710 AAD
19	1 EA	WRENCH 6" ADJUSTABLE #776 AAD
20	2 EA	OXYGEN CYLINDER, TYPE E

A FEW ITEMS IN THIS KIT NEED INSPECTION OR REPLACEMENT ON A SCHEDULED BASIS:

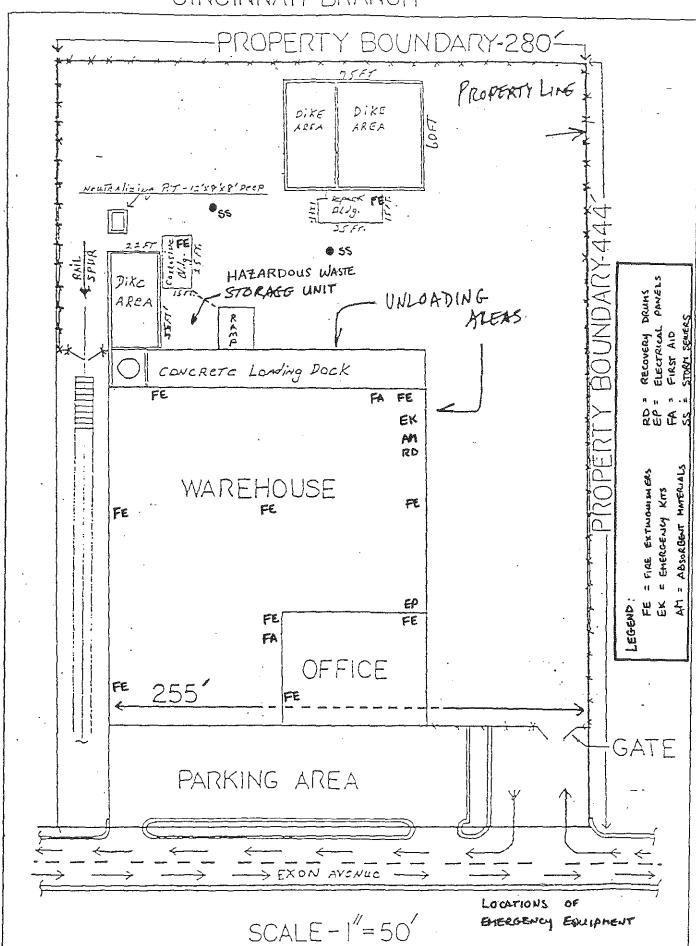
ITEM C-20 MUST BE INSPECTED MONTHLY BY QUALIFIED PERSONNEL AND RECHARGED AS NECESSARY.

THIS KIT IS DESIGNED TO BE SIMPLE AND EASY TO USE. IT IS FOR USE IN EMERGENCIES ONLY. IT IS NOT POSSIBLE TO COVER EVERY SITUATION THAT MIGHT ARISE. MANY OF THE ITEMS ARE DESIGNED FOR SHORT TERM USE. THIS KIT IS NOT DESIGNED FOR SUSTAINED USE IN HAZARDOUS SITUATIONS WITH DANGEROUS MATERIALS.

THE INSTRUCTIONS FOR INSTALLING THE REGULATOR (C-3), ON THE TANK (C-20) ARE CONTAINED IN THE BOX WITH THE REGULATOR. THE RUBBER TIE DOWN CORDS CAN BE USED TO HELP KEEP THE TANKS STABLE IN THE DESIRED POSITION WHILE IN USE.

THERE ARE REPLACEMENT CHLORINE VALVES AND YOKES. THEY DO NOT FIT ALL OF THE MANY TYPES OF POSSIBLE INSTALLATIONS. HOWEVER, THEY DO FIT THE MOST NORMAL SIZES

WARNING! SOME TOOLS AND EQUIPMENT IN THIS KIT WILL CAUSE SPARKS. NON-SPARKING TOOLS HAVE BEEN SPECIFICALLY IDENTIFIED.



Van Waters & Rogers Inc.

subsidiary of **Univar**

2/21/90 DATE

SECTION

SUBJECT

Hazardous Waste

SAFETY AND HEALTH PROGRAM

PAGE

Exhibit 4

DECONTAMINATION PROCEDURES

These	procedures	are	written	for	the	VW&R	Facility	at	
			, ir	1				<i>[</i>	

This VW&R Facility has set up a containment basin 1. beneath a safety shower, or has a safety shower inside of a suitable containment.

Discussion:

An employee wearing a full face respirator and a splash suit and boots and gloves that are contaminated would get an initial rinse by a safety shower inside of a diked area, or the outside of the suit should be washed while the employee stood inside of a suitable containment basin. The employee, and as appropriate a decontamination helper, moves about under the running water, so that all areas of the protective gear are rinsed down to the boot level.

A boot rinse tub is used, to provide for further 2. dilution of materials carried out of the full suit wash area.

Discussion:

A brief time is spent in here to rinse the diluted materials off of the boots.

- Employee steps into a clean tub and removes the outer 3. protective gear.
- The employee proceeds to the shower in the VW&R 4. Facility.
- Gear is checked for contamination, or put in a recovery 5. drum for later testing and cleaning, or for disposal.
- Equipment is decontaminated in the same fashion in 6. separate basins by personnel appropriately attired in PPE.

Discussion:

There should be recovery or disposal drums placed at each step of the decontamination procedure. These effectively contain contaminated equipment for later_ cleaning, or for disposal.

Van Waters & Rogers Inc. subsdiarud Univar



2/21/90 DATE

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Hazardous Waste

SAFETY AND HEALTH PROGRAM

OF

7. An employee who has had body exposure to a hazardous substance should immediately proceed to the decontamination area for proper washing.

In this emergency situation, the affected person should begin removal of all protective clothing and all contaminated non-impervious clothing as soon as it is safe to do so. It may be safe to begin removal of some protective equipment while still in the work area, but before the decontamination area is reached.

It is necessary to act with speed in order to minimize the effect of the chemical on the person. At the First decontamination area, the affected person should receive a thorough water wash while the rest of the PPE is removed.

The person should then step into the second (boot rinse) tub for further rinsing.

Then the person should be taken inside to the shower and change area for a long lukewarm shower to fully rinse all traces of chemical out of the skin.

Finally, the person should be taken to the nearest medical facility.

NOTE:

A person extensively exposed to a hazardous substance may be disoriented by pain from chemical skin or eye contact, or by mental confusion from solvent vapor intoxication. BE READY to provide immediate and continuous aid in the decontamination of persons so affected.

GUIDE TO COMPATIBILITY OF CHEMICALS

The purpose of the Compatibility Chart is to show chemical combinations believed to be dangerously reactive in the case of accidental mixing. The Chart provides a broad grouping of chemicals with an extensive variety of possible binary combinations. Although one group can be considered dangerously reactive with another group where an "X" appears on the chart, there may exist between the groups some combinations which would not react dangerously. The Chart should, therefore, not be used as an infallible guide. It is offered as an aid in the safe storage of chemicals with the recommendation that proper safeguards can be taken to avoid accidental mixing of binary mixtures for which an "X" appears on the Chart. Chemical compatibility must always be reviewed by a qualified chemist or chemical engineer prior to storage or operations.

The following procedure explains how the Guide should be used in determining compatibility information:

- Determine the reactivity group of a particular product by referring to the alphabetical list of chemicals beginning on page B-3.
- Enter the Chart with the reactivity group. Proceed across the page. An "X" indicates a reactivity group that forms an unsafe combination with the product in question.

For example, crotonaldehyde is listed as belonging in Group 19 (Aldehydes). The Chart shows that chemicals in this group should be segregated from sulfuric and nitric acids, caustics, ammonia and all types of amines (aliphatic, alkanol and aromatic). According to Note A, crotonaldehyde is also incompatible with non-oxidizing mineral acids.

It is recognized there are wide variations in the reaction rates of individual chemicals within the broad groupings shown reactive by the Compatibility Chart. Some individual materials in one group will react violently with some of the materials in another group and cause great hazard; others will react slowly, or not at all. Accordingly, a useful addition to the Guide is the identification of specific binary combinations which are found not to be dangerously reactive, even though an "X" appears on the chart for those two chemicals. These combinations are listed beginning on page B-13.

Reference: CHRIS Manual, U.S. Coast Guard, 400 Seventh St., S.W., Washington, D.C. 20590

GUIDE TO COMPATIBILITY OF CHEMICALS*	a So So	OIS OIS		SQI			ALIPHATIC AMINES	INES	AMINES		6	ES	ATE		Q.	ALKYLENE OXIDES	EPICHLOROHYDRIN			GLYCOL 8	CRESOL 8	AM
	NON OXIDIZING MINERAL ACIDS	SULFURIC ACID	ACID	ORGANIC ACIDS	SS	¥	TIC A	ALKANOLAMINES	의	<u></u>	ORGANIC ANHYDRIDES	ISOCYAMATES	VINYL ACETATE	ACRYLATES	SUBSTITUTED ALLYLS	ENE (ORO	E 6	ALDEHYDES	I)L 8, C	SOLUTION
	SER	I.FU	NITRIC ACID	SAN	CAUSTICS	AMMONIA	PHA	KAN	AROMATIC	AMINES	AGA NHYD	SOCY	INY.	CAYL	UBST	LKYL	PICHI	KETONE 6	E	ALCOHOL	PHENOL	PP R
	ĭ≅ E	2 5	N E	4 0	2 C/	6 A	7 A	8 Al	9 A		∓ V	12 15	13 V		15 S	16 A	17 E	18 K	19 A	20 A	21 P	200
1. NON-OXIDIZING MINERAL ACIDS		X			Х	Х	X	Х	Х	X	Χ	X	Х			Х	Х		Α	E		
2. SULFURIC ACID	X		Χ	Х	Х	Х	Х	Х	Х	Х	Х	X	Х	Х	Х	Х	Х	Х	Х	Х	Х	X
3. NITRIC ACID		X			X	Х	Х	Χ	Χ	Х	Х	x	Χ	Х	Х	Х	Х	Х	Χ	Х	Х	X
4. ORGANIC ACIDS		Х	_		X	Х	Х	Х	С			X				Х	Х			E		
5. CAUSTICS	Х	X	Х	X	<u> </u>						Х	Х				Х	Х		Х	Ε	Х	Х
6. AMMINIA	Х	х		ļ				_		Х	χ	Χ	Х			Х	Х		Х			
7. ALIPHATIC AMINES	X	X	_	-							Х	Х	Х	Х	X	Х	Х	X	Х	X	Х	X
8. ALKANOLAMINES	X	Х		 -	\dagger						Χ	Х	Х	Х	Х	Х	Х	В	Х	\vdash		
9. AROMATIC AMINES	X	x	-	ļ	\vdash					<u> </u>	Х	Х					İ		Х			
10. AMIDES	Х	X	 	1	1	Х	-					X			<u> </u>					1	Х	П
11. ORGANIC ANHYDRIDES	X	X	-	+	X	-	x	х	X	<u> </u>							 	†-	 	\vdash		П
12. ISOCYANATES	Х	X	4	↓ —		_	ļ	4	_	Х	<u> </u>	\vdash		-	D	1				X	1	Х
13. VINYL ACETATE	X	Х	-	-	+	X	—	ļ	\vdash	 			1		<u> </u>			ļ —	T	\top	1	\Box
14. ACRYLATES		X	-		+		X	1	┼-	┢		1-			 		1	1		<u> </u>		
15. SUBSTITUTED ALLYLS	+-	X	J		+	†	X	_	-	-	-	D	-	 -	T			†	T	1	1	\Box
16. ALKYLENE OXIDES	X	X	4—	-	X	X	-		+	-	+		-		-	\vdash	†	1	<u> </u>	1	\top	\Box
17. EPICHLOROHYDRIN	X	ļ		+		-	-	+	+	\dagger	\vdash	\vdash		T	-	†	T		†	†-	†	\Box
18. KETONES	+-	X				+	X		-		+	-		\vdash	1	1		†	1	+	1	
19 ALDEHYDES	A	+	+-	+-	X	X			-	\vdash	+-	T	t	-	1		\dagger	\dagger	†	\dagger		+
20. ALCOHOLS GLYCOLS	E	+	-		+		X		\dagger	\dagger		X		1	†	 	+			1	†	
21. PHENOLS CRESOLS	+	x		٠	Х	→—	Tx	-		X		1	+-	\dagger	+	-	+-	T	\dagger		1	$\dagger \dagger$
22. CAPROLACTAM SOLUTION	+	X		\top	Х		X		\dagger	t	+	X		† ·	\dagger	†	T		\dagger	\dagger	+	
	+	1	+	+	+-	Ť	1	+	1	\dagger		<u> </u>		1		1		1	1		\top	
30. OLEFINS		X	(X				_						_			_			_	\perp	1_	
31. PARAFFINS																				1	\perp	
32. AROMATIC HYDROCARBONS			>	4					_						1.		\perp				\perp	
33. MISCELLANEOUS HYDROCARBON MIXTURES			>							į	1_			1					_		\perp	
34. ESTERS		>		oxed												\perp	_		\perp	1	1_	
35. VINYL HALIDES)											_		1				\perp		X
36. HALOGENATED HYDROCARBONS		(3		ł	1					1								\perp			
37. NITRILES		>	K									,					1		\perp	_	\perp	
38. CARBON DISULFIDE)	<u>(</u>)	X									\perp				
39. SULFOLANE																				_	_	ot
40. GLYCOL ETHERS		;	X)	<u> </u>			\perp		1		\perp		\perp
41. ETHERS]	X :	x													\perp	_		\perp	\bot	'
42. NITROCOMPOUNDS						x >	x :	X :	X .	x L			\perp	\perp		_				_	\perp	
43. MISCELLANEOUS WATER SOLUTIONS			X)	X L							\perp	\perp	⊥_
* V 1 - J1 - J + i h i li i /					-																	

^{*}X indicates incompatibility

Notes To Compatibility Chart: Reactivity Differences (Deviations) Within Chemical Groups

- A Acrolein (19), Crotonaldehyde (19), and 2-Ethyl-3-propyl acrolein (19) are not compatible with Group 1, Non-Oxidizing Mineral Acids.

 B Isophorone (18), and Mesityl Oxide (18)
- are not compatible with Group 8, Alkanolamines.
- C Acrylic Acid (4) is not compatible with Group 9, Aromatic Amines.
- D Allyl Alcohol (15) is not compatible with Group 12, Isocyanates.
- E Fufuryl Alcohol (20) is not compatible with Group 1, Non-oxidizing Mineral Acids.
- G Dichloroethyl Ether (36) is not compatible with Group 2, Sulfuric Acid.
 H Trichloroethylene (36) is not compatible with Group 5. Caustics.
 I Ethylenediamine (7) is not compatible with Ethylene Dichloride (36).

Alpha listing

ALPHABETICAL LISTING OF COMPOUNDS

	Group	G	roup
Name	No. B		lo. B
Acetaldehyde	19	Carbon Tetrachloride	36
Acetic Acid	4	Caustic Potash Solution	5
Acetic Anhydride	11	Caustic Soda Solution	5
Acetone	18	Chlorine	*
Acetonitrile	37	Chlorobenzene	36
Acrolein (inhibited)	19	Chloroform	36
Acrylic Acid (inhibited)	4	Chlorosulfonic Acid	*
Acrylonitrile (inhibited)	15	Corn Syrup	43
Adiponitrile	37	Creosote, Coal Tar	21
Allyl Alcohol	15	Cresols	21
Allyl Chloride	15	Cresylate Spent Caustic Solution	5
Aminoethylethanolamine	8	Crotonaldehyde	19
Ammonia, Anhydrous	6	Cumene	32
Ammonium Hydroxide (28% or less)	6	Cycloalophatic Resins	31
Ammonium Nitrate, Urea,	6	Cyclohexane	31
Water Solutions (containing Ammonia)	Ü	Cyclohexanol	20
Ammonium Nitrate, Urea, Water Solu-		Cyclohexanore	18
tions (not containing Ammonia)		Cyclohexylamine	7
Amyl Acetate	34	Cymene	32
Amyl Alcohol	20	Cymone	24
Amyl Tallate	34	Decaldehyde	19
Aniline	9	Decane	31
Asphalt	33	Decene	30
Asphalt Blending	33	Decyl Alcohol	20
Stocks:			14
Roofers Flux	33	Decyl Acrylate (inhibited)	32
Straight Run Residue	33	Decylbenzene Dextrose Solution	43
Straight Kull Residue	33		20
Benzene	32	Diacetone Alcohol	7
	32	Dibutylamine	34
Benzene, Toluene Xylene (Crude)		Dibutyl Phthalate	36
Butadiene (inhibited)	30	Dichlorobenzene	36
Butane District A market (inhibited)	31	Dichlorodifluoromethane	
Butyl Acrylate (inhibited)	14	1,1-Dichloroethane	36
Butyl Acetate	34	Dichloroethyl Ether	31
Butyl Alcohol	20	Dichloromethane	36
Butylamine Butylamine	7	2,2-Dichloropropane	36
Butyl Benzyl Phthalate	34	1,2-Dichloropropane	36
Butylene	30	1,3-Dichloropropene	15
1,3-Butylene Glycol	10	Dicyclopentadiene	30
Butylene Oxide	16	Diethanolamine	8
Butyl Ether	41	Diethylamine	7
Butyl Methacrylate (inhibited)	14	Diethylbenzene	32
Butyraldehyde	19	Diethylene Glycol	40
Butyric Acid	4	Diethylene Glycol Monobutyl Ether	40
		Diethylene Glycol Monobutyl Ether Acetate	34
Camphor Oil (light)	18	Diethylene Glycol Monoethyl Ether	40
Caprolactam Solution	22	Diethylene Glycol Monoethyl Ether	40
Carbolic Oil	21	Diethylenetriamine	7
Carbon Disulfide	38	Diethylethanolamine	7

Name	Group No. B	Name	Group No. B
Diheptyl Phthalate	34	Ethylhexaldenhyde	
Diisobutylene	30	2-Ethyl Hexanol	19
Diisobutyl Carbinol	20	2-Ethyl Flexanol 2-Ethylhexyl Acrylate (inhibited)	20
Diisobutyl Ketone	18	Ethyl Hexyl Tallate	14
Diisodecyl Phthalate	34	Ethyl Methacrylate (inhibited)	34
Diisopropanolamine	8	2-Ethyl-3-Propyl Acrolein	14
Diisopropylamine	7	Z-Buryt-3-1 topyt Actolem	19
Dimethylamine	7	Formaldehyde Solution (37-50%)	19
Dimethylethanoloamine	8	Formic Acid	4
Dimethylformamide	10	Furfural	19
Dinonyl Phthalate	34	Furfuryl Alcohol	20
Dioctyl Phthlate	34	i ditai ji i doolol	20
1,4-Dioxane	41	Gas Oil:	
diphenyl-Diphenyl Oxide	33	Cracked	33
Diphenylmethane Diisocyanate	<i>33</i> 7	Gasoline Blending	33
Dipropylene Glycol	30	Stocks:	
Distillates:	50	Alkylates	77
Straight Run	33	Reformates	33
Flashed Feed Stocks	33	Gasolines:	33
Diundecyl Phthalate	24	Casinghead (natural)	22
Dodecane	31		33
Dodecanol	20	Automotive (containing over 4.23 grams lead per gallon)	s 33
Dodecene	30	Polymer	20
Dodecylbenzene	30	Straight Run	33
Dodecylochizene	32		33
Epichloroohydrin	17	Glutaraldehyde Solution Glycerine	19
Ethane	31	Glycol Diacetate	20
Ethanolamine	8		34
Ethoxylated Alcohols C11-C15	40	Glyoxal Solution	19
Ethoxy Trigloycol	40	Monton	
Ethyl Acetate	34	Heptane	31
•		Hexamethyleneimine	7
Ethyl Accyleta (inhibited)	20	Hexane	31
Ethylamina	14	Hexanol	20
Ethylamine	7	Hexene	30
Ethyl Benzene	32	Hexylene Glycol	20
Ethyl Butanol	20	Hydrochloric Acid	1
Ethyl Chloride	36	Hydrofluoric Acid	1
Ethylene Ch. N. Li	30	* . *	
Ethylene Chlorohydrin	20	Jet Fuels:	
Ethylene Cyanohydrin	10	JP-1 (Kerosene)	23
Ethylenediamine	7	JP-3	33
Ethylene Dibromide	36	JP-4	33
Ethylene Dichloride	36	JP-5 (Kerosene, Heavy)	33
Ethylene Glycol	20		
Ethylene Glycol Monobutyl Ether	40	Kerosene	33
Ethylene Glycol Monobutyl	34		
Ether Acetate		Latex, Liquid Synthetic	43
Ethylene Glycol Monoethyl	34		
Ether Acetate		Mesityl Oxide	18
Ethylene Clycol Monomethyl Ether	40	Methane	31
Ethylene Oxide	*	Methyl Acetate	34
Ethyl Ether	41		

Name	Group No. B	Name	Group No. B
Methyl Acetylene, Propadiene Mixture	30	Fuel Oils:	
(Stabilized)	50	No. 1 (Kerosene)	33
Methyl Acrylate (inhibited)	14	No. 1-D	33
Methyl Alcohol	20	No. 2	33
Methyl Amyl Acetate	34	No. 2-D	33
Methyl Amyl Alcohol	X0	No. 4	33
Methyl Bromide	36	No. 5	33
3-Methyl Butyraldehyde	19	No. 6	33
Methyl Chloride	36	Residual	33
Methyl Ethyl Ketone	18	Road Transformer	33
2-Methyl-5-Ethyl Pyridine Methyl Formal (Dimethyl Formal)	9 41	Edible Oils:	33
Methyl Isobutyl Ketone	41 18	Castor	34
Methyl Isobutyl Carbinol	20	Coconut	34 34
Methyl Methacrylate (inhibited)	X4	Cotton Seed	34
(alpha-) Methyl Styrene (inhibited)	30	Fish	34
Minteral Spirits	33	Lard	34
Monochlorodifluoromethane	36	Olive	34
Moropholine	7	Palm	34
Motor Fuels Antiknock Compounds	*	Peanut	34
Containing Lead Akyls		Safflower	34
Naphtha:		Soya Bean	34
Coal Tar	33	Tucum	34
Solvent	33	Vegetable	34
Stoddard Solvent	33	Miscellaneous Oils, Including:	
Varnish Markers' and Painters' (75%)	33	Absorption	33
Naphthalene (molten)	32	Aromatic	33
Nitric Acid (70% or less)	3	Coal Tar	33
Nitric Acid (95%)	*	Heartcut Distillate Linseed	33 33
Nitrobenzene	43	Lubricating	33 33
1- or 2-Nitropropane	43	Mineral	33
Nitrotoluene	43	Mineral Seal	33
Nonane	31	Motor	33
Nonene	30	Neatsfoot	33
Nonyl Alcohol	20	Penetrating	33
Nonyl Phenol	21	Range	33
Nonyl Phenol (ethoxylated)	40	Resin	33
Octane	31	Resinous Petroleum	33
Octene	30	Rosin	33
Octyl Alcohol	20	Sperm	33
Octyl Aldehyde	19	Spindle	33
Octyl Epoxytallate	34	Spray	33
Oils:		Tall	34
Clarified	33	Tanner's Turbine	33 33
Coal Oil	33	Oleum	33 *
Crude Oil	33	Oleum	
Diesel Oil	33	Pentadecanol	22
		Pentane	31
		Penetene	30
		Pentyl Aldehyde	19

Name	Group No. B	Name	Group No. B
Perchloroethylene	36	Tallow	34
Petrolatum	33	Tallow Fatty Alcohol	20
Petroleum Naphtha	33	1,1,2,2-Tetrachloroethane	36
Phenol	21	Tetradecanol	20
Pentachloroethane	36	Tetradecene	30
Phosphoric Acid	1	Tetradecylbenzene	32
Phosphorus	. *	Tetraethylene Glycol	40
Phythalic Anhydride (molten)	11	Tetraethylenepentamine	7
Polybutene	30	Tetrahydrofuran	41
Polyethylene Glycols	40	Tetrahydronaphthalene	32
Polymethylene Polyphenyl-isocyanate	12	Tetrasodium Sale of EDTA Solution	43
Polypropylene	30	Toluene	32
Polypropylene Glycol Methyl Ether	40	Toluene Diisocyanate	12
Polypropylene Glycols	40	1,2,4-Trichlorobenzene	36
Propane	31	Trichlorethylene	36
Propanolamine	8	Tridecanol	20
Propionaldehyde	19	Tridecene	30
Propionic Acid	4	Tridecylbenzene	32
Propionic Anhydride	11	Triethanolamine	8
Propyl Acetate	34	Triethylamine	7
Propyl Alcohol	20	Triethyl Benzene	32
Propylamine	7	Triethylene Glycol	30
Propylene	30	Triethylenetetramine	7
Propylene Butylene Polymer	30	Tripropylene Glycol	30
Propylene Glycol	20	Turpentine	30
Propylene Oxide	16		
Propylene Tetramer	30	Undecanol	20
Propyl Ether	41	Undecene	30
Pyridine	9	Undecylbenzene	32
Sodium Hydrosulfide Solution (45% or less	s) 5	Valeraldehyde	19
Sorbitol	20	Vinyl Acetate (inhibited)	13
Styrene (inhibited)	30	Vinyl Chloride (inhibited)	35
Sulfolane	39	Vinylidene Chloride (inhibited)	35
Sulfur (molten)	*	Vinyl Toluene (inhibited)	30
Sulfuric Acid	2		
Sulfuric Acid, Spent	2	Xylene	32

REACTIVITY GROUPS

1. Non-Oxidizing Mineral Acids

Hydrochloric Acid Hydrofluoric Acid Phosphoric Acid

2. Sulfuric Acids

Spent Sulfuric Acid Sulfuric Acid (98% or less)

3. Nitric Acid

Nitric Acid (70% or less)

4. Organic Acids

Acetic Acid
Butyric Acid
Formic Acid
Propionic Acid
Acrylic Acid (inhibited)

5. Caustics

Caustic Potash Solution
Caustic Soda Solution
Cresylate Spent Caustic Solution
Sodium Hydrosulfide Solution (45% or less)

6. Ammonia

Ammonia, Anhydrous Ammonium Hydroxide (28% or less) Ammonium Nitrate, Urea, Water Solutions (containing Ammonia)

7. Aliphatic Amines

Butylamine
Cyclohexylamine
Dibutylamine
Diethylamine
Diethylenetriamine
Diisopropylamine
Dimethylamine
Din-propylamine
Ethylamine
Ethylamine
Hexamethyleneimine
Methylamine
Morpholine
Propylamine
Tetraethylenepentamine

8. Alkanolamines

Aminoethylethanolamine Diethanolamine Diethylethanolamine Diisopropanolamine Dimethylethanolamine

Triethylenetetramine

Ethanolamine Propanolamine Triethanolamine

9. Aromatic Amines

Aniline
Pyridine
2-Methyl-5-Ethylpyridine

10. Amides

Dimethylformamide

11. Organic Anhydrides

Acetic Anhydride Phthalic Anhydride Propionic Anhydride

12. Isocyanates

Diphenylmethane Diisoycanate Polyphenyl Polymethylene- isocyanate Toluene Diisocyanate

13. Vinyl Acetate

Vinyl Acetate (inhibited)

14. Acrylates

Butyl Acrylate (inhibited)
Butyl Methacrylate (inhibited)
Decyl Acrylate (inhibited)
Ethyl Acrylate (inhibited)
2-Ethylhexyl Acrylate (inhibited)
Ethyl Methacrylate (inhibited)
Methyl Acrylate (inhibited)
Methyl Methacrylate (inhibited)

15. Subsituted Allyls

Acrylonitrile (inhibited) Allyl Alcohol Allyl Chloride 1,3-Dichloropropene

16. Alkylene Oxides

Propylene Oxide Butylene Oxide

17. Epichlorohydrin

18. Ketones

Acetone
Camphor Oil
Cyclohexanone
Diisobutyl Ketone
Isophorone
Mesityl Oxide
Methyl Ethyl Ketone
Methyl Isobutyl Ketone

19. Aldehydes

Acetaldehyde

Acrolein (inhibited)

Butyraldehyde

Decaldehyde

Ethylhexaldehyde

Formaldehyde

Glutaraldehyde Solution

Glyoxal Solution

Methylbutyraldehyde

Octyl Aldehyde

Pentyl Aldehyde

Propionaldehyde

Valeraldehyde

20. Alcohols, Glycols

Amyl Alcohol

Butyl Alcohol

1.3-Butylene Glycol

Cyclohexanol

Decyl Alcohol

Diisobutyl Carbinol

Dodecanol

Ethanol

Ethoxylated Alcohols

C11-C15

Ethyl Alcohol

Ethylbutanol

Ethylene Chlorohydrin

Ethylene Cyanohydrin

Ethylene Glycol

2-Ethyl Haxanol

Furfuryl Alcohol

Glycerin

Hexanol

Hexylene Glycol

Methanol

Methyl Alcohol

Methylamyl Alcohol

Methylisobutyl Carbinol

Octyl Alcohol

Nonvl Alcohol

Pentadecanol

Propyl Alcohol

Propylene Glycol

Sorbitol

Tallow Fatty Alcohol

Tetradecanol

Tridecanol

Undecanol

21. Phenols and Cresols

Carbolic Oil

Creosote, Coal Tar

Cresols

Nonyl Phenol

Phenol

22. Caprolactam Solution

23-29. Unassigned

30. Olefins

Butadiene (inhibited)

Butena

Butylene

Decene

Dicyclopentadiene

Diisobutylene

Dodecene

Ethylene

Hexene

Isoprene (inhibited)

Methyl Acetylene, Propadiene Mixture

(stabilized) (alpha-)

Methyl Styrene (inhibited)

Nonene

Octene

Pentene

Polybutene

Polypropylene

Propylene

Proplene Butylene Polymer

Porpylene Tetramer

Styrene (inhibited)

Vinyl Toluene (inhibited)

Tetradecene

Tridecene

Turpentine

Undecene

31. Paraffins

Butane

Cycloaliphatic Resins

Cyclohexane

Decane

Dodecane

Ethane

Heptane

Hexane

Methane

Nonane

Octane

Pentane

Propane

32. Aromatic Hydrocarbons

Benzene

Benzene, Toluene, Xylene (crude)

Cumene

Cymens

Decylbenzene

32. Aromatic Hydrocarbons (Cont.)

Diethylbenzene Dodecylbenzene

Ethylbenzene

Naphthalene

Tetradecylbenzene

Tetrahydronaphthalene

Toluene

Tridecylbenzene

Triethylbenzene

Undecylbenzene

Xylene

33. Misc Hydrocarbon Mixtures

Asphalt

Asphalt Blending Stocks

Diphenyl-Diphenyl Oxide

Distillates

Gas Oil, Cracked

Gasoline Blending Stocks

Gasolines

Jet Fuels

Kerosene

Mineral Spirits

Naphtha

Oils, Crude

Oils, Diesel

Oils, Coal

Oils, Residual

Oils, Road

Oils, Transformer

Petrolatum

Petroleum Naptha

34. Esters

Amyl Tallate

Butyl Acetate

Butyl Benzyl Phthalate

Castor Oil

Coconut Oil

Cottonseed Oil

Dibutyl Phthalate

Diethylene Glycol Monobutyl Ether Acetate

Diheptyl Phthalate

Diisodecyl Phthalate

Dinonyl Phthalate

Diocytl Phthalate

Diundecyl Phthalate

Ethyl Acetate

Ethylene Glycol Monobutyl Ether Acetate

Ethylene Glycol Monethyl Ether Acetate

Ethylhyxyl Tallate

Fish Oil

Glycol Diacetate

Lard

Methyl Acetate

Methyl Amyl Acetate

Octyl Epoxy Tallate

Olive Oil

Palm Oil

Peanut Oil

Propyl Acetate

Safflower Oil

Sovbean Oil

Tallow

Tucum Oil

Vegetable Oil

35. Vinyl Halides

Vinyl Chloride (inhibited)

Vinylidene Choride (inhibited)

36. Halogenated Hydrocarbons

Carbon Tetrachloride

Chlorobenzene

Chloroform

Dichlorobenzene

1,1-Dichloroethane

Dichloroethyl Ether

Dichloromethane

1,1-Dichloropropane

1,2-Dichloropropane

Ethyl Chloride

Ethylene Dibromide

Ethylene Dichlorode

Methyl Bromide

Methyl Chloride

Pentachloroethane

Perchloroethylene

1,1,2,2-Tetrachloroethane

1,2,4-Trichlorobenzene

Trichloroethylene

37. Nitriles

Acetonitrile

Adiponitrile

38. Carbon Disulfide

39. Sulfolane

40. Glycol Ethers

Diethlene Glycol

Diethylene Glycol Monobutyl Ether

Diethylene Glycol Monoethyl Ether

Diethylene Glycol Mono- methyl Ether

Dipropylene Glycol

Ethoxy Triglycol

Ethylene Glycol Monobutyl Ether

Ethylene Glycol Monethyl Ether

Ethylene Glycol Monomethyl Ether

Nonylphenol, Ethoxylated

40. Glycol Ethers (Cont.)

Polyethylene Glycols
Polypropylene Glycol Methyl Ether
Soybean Oil, Epoxidized
Tetraethylene Glycol
Triethylene Glycol
Tripropylene Glycol

41. Ethers

Butyl Ether 1,4-Dioxane Ethyl Ether Methyl Formal (Dimethyl Formal) Propyl Ether Tetrahydrofuran

42. Nitrocompounds

(mono-) Nitrobenzene 1- or 2-Nitropropane Nitrotoluene

43. Miscellaneous Water Solutions

Ammonium Nitrate, Urea, Water (not containing Ammonia)
Corn Syrup
Dextrose Solution
Latex Solutions
Tetrasodium Salt of EDTA Solution

^{*} Because of very high reactivity or unusual conditions of carriage, this product is not included in the Compatibility Chart. If compatibility information is needed for a shipment, contact Commandant (G-MHM-1/83), U.S. Coast Guard, 400 Seventh Street, S.W., Washington, DC 20590.

COMBINATIONS NOT DANGEROUSLY REACTIVE

(as tested in accordance with procedure outlined in NVC 5-70)

Acetone (8) Acrylonitrile (inhibited) (14) Acrylonitrile (inhibited) (14) Acrylonitrile (inhibited) (14) Acrylonitrile (inhibited) (14)	Caustic soda solution (3) Methyl alcohol (6) Niax polyol (6)* Polyol 3030 (6)* Propylene glycol (6)	Ethyl acrylate (inhibited) (14) Ethyl acrylate (inhibited) (14) Ethyl acrylate (inhibited) (14) Ethyl alcohol (6) Ethylenediamine (4)	Ethylene glycol (6) 2-Ethyl hexanol (6) Voranol CP 4100 (6)* Methyl methacrylate (inhibited) (14) Dioctyl phthalate (13)
Acrylonitrile (inhibited) (14) Benzene (10) Butyl acetate (n-, iso-*) (13) Butyl acrylate (inhibited) (14) Butyl acrylate (inhibited) (14)	Voranol CP 4100 (6)* Phosphoric acid (1) Caustic soda solution (3) Methyl alcohol (6) Voranol CP 4100 (6)*	Ethylene dichloride (5) Ethylene dichloride (5) Ethylene glycol (6) Ethylene glycol (6) Ethylene glycol (6)	Caustic soda solution (3) Diphenylmethanediisocyanate Ethyl acrylate (inhibited) (14) Styrene (inhibited) (14) Vinyl acetate (inhibited) (14)
n-Butyl alcohol (6) n-Butyl alcohol (6) Carbon tetrachloride (5) Caustic soda solution (3) Caustic soda solution (3)	Styrene (inhibited) (14) Vinyl acetate (inhibited) (14) Caustic soda solution (3) Acetone (8) Butyl acetate (iso-*, n-) (13)	2-Ethyl hexanol (6) 2-Ethyl hexanol (6) Furfural (7) Furfural (7) Furfural (7)	Ethyl acrylate (inhibited) (14) Styrene (inhibited) (14) Dimethylformamide (4) Isopropyl alcohol (6) Methyl ethyl ketone (8)
Caustic soda solution (3)	Carbon tetrachloride (5) Oils, edible: coconut (13)* Oils, edible: cottonseed (13) Dichloropropane (5) Dichloropropene (5)	Grease (inedible, yellow) (13)* isobutyl alcohol (6) isobutyl alcohol (6) isodecyl alcohol (6) isooctyl alcohol (6)	Caustic soda solution (3) Styrene (inhibited) (14) Vinyl acetate (inhibited) (14) Vinyl acetate (inhibited) (14) Methyl methacrylate (inhibited) (14)
Caustic soda solution (3)	Diisodecyl phthalate (13)* Di-normal-alkyl phthalate (13)* Dioctyl phthalate (13) Ethyl acetate (13) Ethylene dichloride (5)	Isooctyl alcohol (6) Isooctyl alcohol (6) Isopropyl alcohol (6) Isopropyl alcohol (6) Isopropyl alcohol (6)	Styrene (inhibited) (14) Vinyl acetate (inhibited) (14) Furfural (7) Styrene (inhibited) (14) Vinyl acetate (inhibited) (14)
Caustic soda solution (3)	Oils, edible: fish (13) Grease (inedible, yellow) (13)* Lard (edible) (13)*- Linseed oil (raw) (13)* Methylene chloride (5)*	Lard (edible) (13)* Linseed oil (raw) (13)* Methyl alcohol (6) Methyl alcohol (6) Methyl alcohol (6)	Caustic soda solution (3) Caustic soda solution (3) Acrylonitrile (inhibited) (14) Butyl acrylate (inhibited) (14) Styrene (inhibited) (14)
Caustic soda solution (3)	Methyl ethyl ketone (8) Methyl isobutyl ketone (8) Palm oil (13)* Perchloroethylene (5)* Propyl acetate (iso-*, n-) (13)	Methyl alcohol (6) Methylene chloride (5)* Methyl ethyl ketone (8) Methyl ethyl ketone (8) Methyl isobutyl ketone (8)	Vinyl acetate (inhibited) (14) Caustic soda solution (3) Caustic soda solution (3) Furfural (7) Caustic soda solution (3)
Caustic soda solution (3)	Oils, edible: soya bean (13) Oils, miscellaneous: sperm Styrene (inhibited) (14) Tallow (13) Trichloroethane (5)	Methyl methacrylate (inhibited) (14) Methyl methacrylate (inhibited) (14) Niax polyol (6)* Niax polyol (6)* Oils, edible: coconut (13)*	Ethyl alcohol (6) Isooctyl alcohol (6) Acrylonitrile (inhibited) (14) Vinyl acetate (inhibited) (14) Caustic soda solution (3)
Dichloropropane (5) Dichloropropene (5) Diisodecyl phthalate (13)* Di-normal-alkyl phthalate (13)* Dimethylformamide (4)	Caustic soda solution (3) Caustic soda solution (3) Caustic soda solution (3) Caustic soda solution (3) Furfural (7)	Oils, edible: cottonseed (13) Oils, edible: fish (13) Oils, edible: soya bean (13) Oils, miscellaneous: sperm Palm oil (13)*	Caustic soda solution (3)
Dimethylformamide (4) Dioctyl phthalate (13) Dioctyl phthalate (13) Diphenylmethanediisocyanate	Phenol (15) Caustic soda solution (3) Ethylenediamine (4) Ethylene dichloride (5)	Perchloroethylene (5)* Phenol (15) Phosphoric acid (1) Phosphoric acid (1)	Caustic soda solution (3) Dimethyl formamide (4) Benzene (10) Toluene (10)

Phosphoric acid (1)

Phosphoric acid (1)

Ethylene dichioride (5)

Caustic soda solution (3)

Diphenylmethanediisocyanate

Ethyl acetate (13)

Toluene (10)

Xylene (10)

COMBINATIONS NOT DANGEROUSLY REACTIVE (Continued)

Polyol 3030 (6)* Acrylonitrile (inhibited) (14) Propyl acetate (is > *, n-) (13) Caustic soda solution (3) Propylene glycol (6) Acrylonitrile (inhibited) (14) Styrene (inhibited) (14) Propylene glycol (6) Styrene (inhibited) (14) n-Butyl alcohol (6) Styrene (inhibited) (14) Caustic soda solution (3) Styrene (inhibited) (14) Ethylene glycol (6) Styrene (inhibited) (14) 2-Ethyl hexanol (6) Styrene (inhibited) (14) Isobutyl alcohol (6) Styrene (inhibited) (14) Isooctyl alcohol (6) Styrene (inhibited) (14) isopropyl alcohol (6) Styrene (inhibited) (14) Methyl alcohol (6) Propylene glycol (6) Styrene (inhibited) (14) Trichloroethylene (5) Styrene (inhibited) (14) Caustic soda solution (3) Tallow (13) Phosphoric acid (1) Toluene (10)

Trichloroethane (5)

Trichloroethylene (5) Vinyl acetate (inhibited) (14)

Vinyl acetate (inhibited) (14)

Caustic soda solution (3)

Styrene (inhibited) (14)

n-Butyl alcohol (6)

Ethylene glycol (6)

Vinyl acetate (inhibited) (14)
Vinyl acetate (inhibited (14)
Vinyl acetate (inhibited) (14)
Voranol CP 4100 (6)*

Isobutyl alcohol (6)
Isodecyl alcohol (6)
Isopropyl alcohol (6)
Methyl alcohol (6)
Vinyl acetate (inhibited) (14)
Voranol CP 4100 (6)*

Acrylonitrile (inhibited)

Niax polyol (6)*
Voranol CP 4100 (6)*
Acrylonitrile (inhibited) (14)
Butyl acrylate (inhibited) (14)
Ethyl acrylate (inhibited) (14)
Vinyl acetate (inhibited) (14)

Voranol CP 4100 (6)* Xylene (10)

Voranol CP 4100 (6)*

Voranol CP 4100 (6)*

Phosphoric acid (1)

Toluene 2,4-diisocyanate (TDI), diphenylmethanediisocyanate (MDI), and polymethylene polyphenyl isocyanate (PAPI)* are considered compatible with reactivity groups 9, 10, 11, 12, 18, and 21.

^{*}Not presently included in CHRIS.

APPENDIX D -- EMERGENCY CONTACTS

State	City	Emergency Coordinator	Day Phone	Night Phone	Region
Alabama	Birmingham	Steve Weldon Tracy Puckett	(205)942-0244 (205)942-0244	Nonresponsive Nonresponsive	Southern
Alabama	Mobile	Richard Broadwell Jim Ezell	(205)456-0000 (205)456-0000	Nonresponsive Nonresponsive	Southern
Alaska	Anchorage	Jerry Delcamp Lee Dickinson	(907)344-7444 (907)344-7444	Nonresponsive Nonresponsive	Western
Arizona	Glendale	Harold Gowdy Charles Bonnie Tom Gardner	(602)842-4657 (602)272-3272 (602)272-3272	Nonresponsive Nonresponsive	Western
Arizona	Phoenix	Mike Trapasso Tom Gardner Charles Bonnie	(602)272-3272 (602)272-3272 (602)272-3272	Nonresponsive Nonresponsive	Western
Arizona	Tucson	Charles Bonnie Caren Smith	(602)272-3272 (602)747-8717	Nonresponsive Nonresponsive	Western
Arkansas	Fayetteville	Jay Havens Mike Bezjian	(501)521-9020 (501)521-9020	Nonresponsive Nonresponsive	Southern
Arkansas	Little Rock	Mark Brenner Jim Knight	(501)982-4402 (501)982-4402	Nonresponsive Nonresponsive	Southern
California	Bakersfield	Gilbert Paz Terry Potter	(805)323-8303 (805)323-8303	Nonresponsive Nonresponsive	Western
California	Fresno	Michael Cross Kurt Carpenter Gary Kramer	(209)486-1221 (209)486-1221 (209)486-1221	Nonresponsive Nonresponsive	Western
California	Los Angeles Bonnie Beach	David Morales Rick Lenard	(213)265-8123 (213)265-8123	Nonresponsive Nonresponsive	Western
California	Los Angeles Jillson Stree	Terry Johnson Mike Morris Phil Loncar	(213)269-9531 (213)269-9531 (213)269-9531	Nonresponsive Nonresponsive	Western

Page 1
MAC/Chemtrec 5/1/90 (disc)/Dist. Emergency Coord.

State	City E	mergency Coordinator	Day Phone	Night Phone	Region
California	Oxnard	Ed Gamblin Maggi Ciccone	(805)983-1868 (805)983-1868	Nonresponsive Nonresponsive	Western
California	Riverside	Gil Rodriquez Chris Gantz	(714)683-5165 (714)683-5165	Nonresponsive Nonresponsive	Western
California	Sacramento	Bill Clancy Ron Haydel	(916)371-7600 (408)435-8700	Nonresponsive Nonresponsive	Western
California	San Diego	Kelly Latislaw Rafique Rahimtoola	(619)262-0711 (619)262-0711	Nonresponsive Nonresponsive	Western
California	San Jose	Ron Haydel Jim Donahue	(408)435-8700 (408)435-8700	Nonresponsive Nonresponsive	Western
Colorado	Denver	Robert Marks Joseph Urban	(303)388-5651 (303)388-5651	Nonresponsive Nonresponsive	Western
Colorado	Grand Junction	Jerald Conyers Harvey Runnels	(303)242-3744 (303)242-3744	Nonresponsive Nonresponsive	Western
Florida	Delray Beach	Ron Strack Lloyd Gray	(407)243-0001 (407)243-0001	Nonresponsive Nonresponsive	Southern
Florida	Fort Myers PCS	Jim Durlacher Joe Kerr	(813)693-1919 (813)693-1919	Nonresponsive Nonresponsive	Southern
Florida	Jacksonville	Bob Potochnik Michael Overstreet	(904)781-1634 (904)781-1634	Nonresponsive Nonresponsive	Southern
Florida	Miami PCS	Robert Garcia Tomas Hernandez	(305)883-9514 (305)883-9514	Nonresponsive Nonresponsive	Southern
Florida	Orlando PCS	Betty Atkinson Harry Eldridge Paul Deets	(407)843-2611 (407)843-2611 (407)843-2611	Nonresponsive Nonresponsive	Southern

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State	City	Emergency Coordinator	Day Phone	Night Phone	Region
·. #					
Florida	Tampa	Gary Tonry	(813)677-8414	Nonresponsive	Southern
		Ron Goodwin	(813)677-8414	Nonresponsive	• .
		Donnie Redd	(813)677-8414	Nonresponsive	
Florida	Tampa PCS	Gsry Tonry	(813)671-2071	Nonresponsive	Southern
	•	Bill Davis	(813)671-2071	Nonresponsive	
Georgia	Atlanta	Forest Fleming	(404)441-3584	Nonresponsive	Southern
Georgia	Atlanta	George Martin	(404)441-3584	Nonresponsive	Southern
		Kit Redman	(404)441-3582	Nonresponsive	
		Bob Tuttle	(404)441-3584	Nonresponsive	
Georgia	Augusta	Walt Young	(404)722-3751	Nonresponsive	Southern
overg.u	11684514	Bill Ware	(404)722-3751	Nonresponsive	
TT		n: 1 01	(000)006 1061		***
Hawaii	Honolulu	Richard Okamoto Andrew Choo	(808)836-1361 (808)836-1361	Nonresponsive Nonresponsive	Western
		Andrew Choo	(808/830*1301	Nonresponsive	
Idaho	Nampa	Bob Machos	(208)466-7006	Nonresponsive	Western
		Brian Adams	(208)466-7006	Nonresponsive	
Idaho	Pocatello	Kent Smith	(208)233-7069	Nonresponsive	Western
Luano	1 deaterro	Bill Stout	(208)233-7069	Nonresponsive	Western
			, ,		
Illinois	Bloomington	Larry Carlin	(309)454-1455	Nonresponsive	Northern
		Erwin Leistner	(309)454-1455	Nonresponsive	
		Kevin Karney	(309)454-1455	Nonresponsive	
Illinois	Chicago Heig	hts Gerard Anastasia	(708)757-7450	Nonresponsive	Northern
		John Kalbfleisch	(708)757-7450	Nonresponsive Nonresponsive	
		George Coyle	(708)757-7450	Nonresponsive	
Illinois	Schaumburg	Gerard Anastasia	(708)757-7450	Nonresponsive	Northern
***********	50	John Tobin	(708)303-0050	Nonresponsive	1,01140111
		Dean Sievers	(708)303-0050	Nonresponsive	
Indiana	Fort Wayne	John Davis	(219)493-1543	Nonresponsive	Northern
	-	Dennis Amberger	(219)493-1543	Nonresponsive	

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State	City	Emergency Coordinator	Day Phone	Night Phone	Region
Indiana	Indianapolis	Nolan Payne Mike Stevens Monte Sullivan	(317)547-4811 (317)547-4811 (317)547-4811	Nonresponsive Nonresponsive Nonresponsive	Northern
Indiana	South Bend	Tom Grubbs Don Wozniak	(219)289-0321 (219)289-0321	Nonresponsive Nonresponsive	Northern
Iowa	Burlington	Randy D. Longcor Richard Cline	(319)753-2253 (319)753-2253	Nonresponsive Nonresponsive	Northern
Iowa	Sioux City	Michael Choquette Chris Tadlock	(712)258-5311 (712)258-5311	Nonresponsive Nonresponsive	Northern
Kansas	Wichita	Marc Linos Glenn Sims	(316)267-6292 (316)267-6292	Nonresponsive Nonresponsive	Northern
Kansas	Wichita PRF	Marc Linos Rex Jackson	(316)267-6292 (316)832-9107	Nonresponsive Nonresponsive	Northern
Kentucky	Louisville	Michael Clifford Joseph French	(502)361-1225 (502)361-1225	Nonresponsive Nonresponsive	Northern
Louisiana	Geismar	Walt Landry Mike Wells	(504)473-1100 (504)473-1100	Nonresponsive Nonresponsive	Southern
Louisiana	Lafayette	Ken C. Guilbeau Paul Wellen	(318)896-1000 (318)896-1000	Nonresponsive Nonresponsive	Southern
Louisiana	New Orleans (Harahan)	David Mayley Mark Pellittieri	(504)733-8885 (504)733-8885	Nonresponsive Nonresponsive	Southern
Maine	Lewiston	Tony Lampron Bob Giguere	(207)783-9121 (207)783-9121	Nonresponsive Nonresponsive	Northern
Massachu- setts	Boston (Salem)	Harley Orr Bob Harrington Bill Collins	(508)745-3700 (508)745-3700 (508)745-3700	Nonresponsive	Northern
Michigan Page 4 MAC/Chen	Detroit ntrec 5/1/90 (d	Dave Budnick Tom Oppold lisc)/Dist. Emergency Coord.	(313)295-7700 (313)295-7700		Northern April, 1991

State	City	Emergency Coordinator	Day Phone	Night Phone	Region
Michigan	Grand Rapids	Kristine Plank Gerald Stagray	(616)698-7330 (616)698-7330	Nonresponsive Nonresponsive	Northern
Minnesota	St. Paul	Steve Berg Ron Marchand Al Cummins	(612)774-9400 (612)774-9400 (612)774-9400	Nonresponsive Nonresponsive Nonresponsive	Northern
Mississippi	Jackson	Carol Pearson	(601)939-1996	Nonresponsive	Southern
Missouri	Kansas City	Frank L. Addington Alex Maslow	(816)842-6240 (816)842-6240	Nonresponsive Nonresponsive	Northern
Missouri	Springfield	Robert Fitzgerald Bob Gullett	(417)866-3501 (417)866-3501	Nonresponsive Nonresponsive	Northern
Missouri	St. Louis	Charles Slaybaugh Jack Riordan Doug Moore	(314)522-6400 (314)522-6400 (314)522-6400	Nonresponsive Nonresponsive Nonresponsive	Northern
Montana	Helena	Jim Ryan Mark Rogers	(406)443-7037 (509)534-0405	Nonresponsive Nonresponsive	Western
Nebraska	Omaha	Dennis Smith Curt Gullickson	(402)733-3266 (402)733-3266	Nonresponsive Nonresponsive	Northern
Nevada	Carlin	Mike Patton Randy Staples	(702)754-6373 (702)754-6373	Nonresponsive Nonresponsive	Western
Nevada	Las Vegas	Greg Abeldt Beverly Starks	(702)736-7066 (702)736-7066	Nonresponsive Nonresponsive	Western
Nevada	Reno	Mike Barbagelaia Ed Higbee	(702)331-3370 (801)328-1112	Nonresponsive Nonresponsive	Western
New Jersey	Woodbridge	Bill Doerrer Dave Larkin Kevin Fagan	(201)636-4660 (201)636-4660 (201)636-4660	Nonresponsive Nonresponsive Nonresponsive	Northern

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MAC/Chemtrec 5/1/90 (disc)/Dist. Emergency Coord.

State	City	Emergency Coordinator	Day Phone	Night Phone	Region
New Mexico	Albuquerque	Jim Schultz Bob Garrett	(505)842-6303 (505)842-6303	Nonresponsive Nonresponsive	Western
New Mexico	Farmington	Jim Darland Charles Bonnie	(505)327-0371 (602)272-3272	Nonresponsive Nonresponsive	Western
New York	Albany	Mary Lou Gray Bob Habla	(518)681-5181 (518)861-5181	Nonresponsive Nonresponsive	Northern
New York	Buffalo	Laney Repman Steve Rebrovic	(716)897-1700 (716)897-1700	Nonresponsive Nonresponsive	Northern
New York	New Rochelle	Tom Nelson Calvin Thomas	(914)235-6925 (914)235-6925	Nonresponsive Nonresponsive	Northern
North Carolina	Charlotte	John Dodson Sarah Dixon	(704)399-4255 (704)399-4255	Nonresponsive Nonresponsive	Southern
North Carolina	Greensboro	Jim Fridy John Hulsey	(919)292-0624 (919)292-0624	Nonresponsive Nonresponsive	Southern
North Carolina	Greenville	James Dawson	(919)758-0336	Nonresponsive	Southern
North Dakota	Williston	David Romans Kurt Matz	(701)774-8873 (612)774-9400	Nonresponsive Nonresponsive	Northern
Ohio	Cincinnati, Industrial	Darrell Wheeler Keith Dorrell	(513)563-2440 (513)563-2440	Nonresponsive Nonresponsive	Northern
Ohio	Cincinnati, Textiles	Darrell Wheeler Manford Stewart	(513)563-2440 (513)563-2440	Nonresponsive Nonresponsive	Northern
Ohio	Cleveland	John Vansil Cliff Moll Russ Karney Russ Metzger	(216)425-4330 (216)425-4330 (216)425-4330 (216)425-4330	Nonresponsive Nonresponsive	Northern

State	City	Emergency Coordinator	Day Phone	Night Phone	Region
Ohio Ohio	Columbus Toledo	John R. Cain James Castle Jack M. Hohman Eric Pfohl	(614)443-7629 (614)443-7629 (419)666-7880 (419)666-7880	Nonresponsive Nonresponsive Nonresponsive	Northern Northern
Oklahoma	Oklahoma City	Bert Casey Dan Schneider	(405)745-2376 (405)745-2376	Nonresponsive Nonresponsive	Southern
Oklahoma	Tulsa	Bert Casey Dawn Feray	(918)627-3757 (918)627-3757	Nonresponsive Nonresponsive	Southern
Oregon	Eugene	Lee Fletcher Norma Reilly	(503)342-5544 (503)342-5544	Nonresponsive Nonresponsive	Western
Oregon	Portland .	Kirk Steinseifer Jerry Jones Ken Weems	(503)222-1721 (503)222-1721 (503)222-1721	Nonresponsive Nonresponsive Nonresponsive	Western
Pennsyl- vania	Altoona	Paul Shatraw Roger Wexler	(814)695-7534 (814)695-7534	Nonresponsive Nonresponsive	Northern
Pennsyl- vania	Harrisburg	Paul Montini Sandy Zdrojewski	(717)566-2522 (717)566-2522	Nonresponsive Nonresponsive	Northern
Pennsyl- vania	Philadelphia	George Lynch Vince Dunne	(215)365-7200 (215)365-7200	Nonresponsive Nonresponsive	Northern
Pennsyl- vania	Pittsburgh	Bob Douglass Steve Schmitz	(412)923-1100 (412)923-1100	Nonresponsive Nonresponsive	Northern
South Carolina	Spartanburg	Dennis Thornton Kendall Troutman Chuck Magill	(803)585-4321 (803)585-4321 (803)555-4321	Nonresponsive Nonresponsive Nonresponsive	Southern
Tenn- essee	Chattanooga	Harold Chumley Steve Block	(615)698-0231 (615)698-0231	Nonresponsive Nonresponsive	Southern
Tenn- essee	Kingsport	Johnny Barnes John Rippetoe	(615)247-7149 (615)247-7149	Nonresponsive Nonresponsive	Southern

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State City	Emergency Coordinate	or <u>Day Phone</u>	Night Phone	Region
Tenn- Knoxv	ille Greg Huffman Jim Wakim	(615)687-9691 (615)687-9691	Nonresponsive Nonresponsive	Southern
Tenn- Memph essee	nis Wayde Peck Scott Panning	(901)795-4180 (901)795-4180	Nonresponsive Nonresponsive	Southern
Tenn- Nashvi	ille Rodney King Jim Goldsack	(615)893-1449 (615)893-1449	Nonresponsive Nonresponsive	Southern
Texas Amaril	llo Pat Curry	(806)373-6825	Nonresponsive	Southern
Texas Beaum	ont Monte Aaron Nancy Henderson	(409)832-1612 (409)832-1612	Nonresponsive Nonresponsive	Southern
Texas Corpus Christ		(512)289-1474 (512)289-1474	Nonresponsive Nonresponsive	Southern
Texas Dallas	Robert Sheffield Bob Price Ron Morton Frank Roscoe	(214)340-7300 (214)340-7300 (214)340-7300 (214)340-7300	Nonresponsive Nonresponsive Nonresponsive	Southern
Texas El Pase	o Frank Arriaga Henry Toledo Charles Bonnie	(915)778-4225 (915)778-4225 (602)272-3272	Nonresponsive Nonresponsive Nonresponsive	Western
Texas Grand	Prarie David Pederson Chris Norris	(214)647-0050 (214)647-0050	Nonresponsive Nonresponsive	Southern
Texas Harlin	gen Pablo Sanchez Mike Linscomb	(512)423-2489 (512)289-1474	Nonresponsive Nonresponsive	Southern
Texas Housto	on Steve Jaworski Eugene Sabatier	(713)644-1601 (713)644-1601	Nonresponsive Nonresponsive	Southern
Texas Housto	on PCS Steve Jaworski Eugene Sabatier	(713)644-1601 (713)644-1601	Nonresponsive Nonresponsive	Southern
Fexas Longvi Page 8 MAC/Chemtrec 5/1/	iew Pam Forrest Steve Classen /90 (disc)/Dist. Emergency Coord.	(214)758-0555 (214)758-0555	Nonresponsive Nonresponsive	Southern April, 1991

State	City	Emergency Coordinator	Day Phone	Night Phone	Region
Texas	Odessa	Jim Goodman Danny Stephens	(915)366-3243 (915)366-3243	Nonresponsive Nonresponsive	Southern
Texas	San Antonio	Robert Bennett John DeLeon	(512)333-2310 (512)333-2310	Nonresponsive Nonresponsive	Southern
Utah	Salt Lake City	Ed Higbee Mike Zibit	(801)328-1112 (801)328-1112	Nonresponsive Nonresponsive	Western
Virginia	Richmond	Ed Collins Robert Fowler	(804)743-0540 (804)743-0540	Nonresponsive Nonresponsive	Southern
Washington	Kent	Ed Higbee Jack Datin	(206)872-5000 (206)872-5000	Nonresponsive Nonresponsive	Western
Washington	Pasco	Gary Pence Kirk Steinseifer	(509)545-8401 (509)222-1721	Nonresponsive Nonresponsive	Western
Washington	Spokane	Mark Rogers Kirk Steinseifer	(509)534-0405 (509)222-1721	Nonresponsive Nonresponsive	Western
Wisconsin	Appleton	Arthur Schuenemann Vernon A. Kraft	(414)734-9888 (414)734-9888	Nonresponsive Nonresponsive	Northern
Wisconsin	Chippewa Falls	Roger F. Dachel Richard D. Wilhelm	(715)723-5797 (715)723-5797	Nonresponsive Nonresponsive	Northern
Wisconsin	Milwaukee	Jerry Johnson Denny Lyman	(414)259-9350 (414)259-9350	Nonresponsive Nonresponsive	Northern
Wyoming	Casper	Kenneth Clifton Bruce Kelly	(307)237-4224 (307)237-4224	Nonresponsive Nonresponsive	Western
Wyoming	Rock Springs	Warren Child Terry Clark	(307)382-3363 (307)382-3363	Nonresponsive Nonresponsive	Western

VAN WATERS & ROGERS LTD. Canada Emergency Response Contact List

Vancouver Office 9800 Van Horne Way Richmond, BC, V6X 1W5 Day Line: (604) 273-1441

- 1. Ernie Read
- 2. George Coulthard
- 3. Glen Chu
- 4. Bill MacAdams

Nonresponsive Nonresponsive Nonresponsive Nonresponsive

Abbotsford Office 3266 McCallum Road P.O. Box 172 Abbotsford, BC, V2S 4N8

1. Don Aleksic

- 2. Glenn Fulton
- 3. Dave Fridleifson

(supervised from Vancouver) Day Line: (604) 859-4919 (604) 533-2747

> Nonresponsive Nonresponsive

Edmonton Office

16803 - 118th Avenue Edmonton, AB, T5V 1H3

- 1. Eugene Yaceyko
- 2. Norm Tearoe
- 3. Lorry Altwasser
- 4. Mike Krupka

24-Hour Line: (403) 452-6655

Nonresponsive
Nonresponsive
Nonresponsive

Saskatoon Office

2956 Portage Avenue Saskatoon, Sask. S7J 4C7

- 1. Rick Van De Kerckhove
- 2. Doug James
- 3. Rick Pierson

(supervised from Winnipeg) Day Line: (306) 955-3599

> Nonresponsive Nonresponsive Nonresponsive

Regina Office

316 - 1st Avenue, East Regina, Sask. S4N 5H2

- 1. Doug James
- 2. Rick Pierson

(supervised from Winnipeg) Day Line: (306) 721-4911

Nonresponsive

Calgary Office 4220 - 78th Ave. S.E. Calgary, AB, T2C 2Z5 Day Line: (403) 236-1713

1. Darrell Airth

- 2. Pat Achtemichuk
- 3. John Webster
- 4. John Smith

Note: In this location there is a 24 hour answering service at the standard number (403) 236-1713.

Winnipeg Office

99 Lowson Cres.

Winnipeg, Manitoba R3P 0T3

- 1. Doug James
- 2. Rick Pierson
- 3. Dave Hayward
- 4. Carl Van Hove

Day Line: (204) 489-0102

London Office

1020 Hargrieve Road, Unit "D" London, Ontario

N6E 1P5

- 1. Ed van der Wolf
- 2. Al Smith
- 3. Louise Sherman

(supervised from Winnipeg) Day Line: (519) 668-3007

Toronto Office

64 Arrow Road

Weston, Ontario M9M 2L9

- 1. Don Robertson
- 2. Army Dault
- 3. Alex Jackson
- 4. Shirley Gadd

Day Line: (416) 741-9190

Windsor Office

1550A Kildare Road

Windsor, Ontario N8W 2W2

- 1. Dave Labelle
- 2. Gerry Gallant
- 3. Don Robertson
- 4. Army Dault

(supervised from Toronto) Day Line: (519) 254-3283

Montreal Office (covering Quebec, the Ottawa Valley and the Maritimes) 2700 J.B. Deschamps Street Day Line: (514) 631-9451 Lachine, Quebec H8T 1E1

- 1. Colin Seale
- 2. Guy Sauvé
- 3. Sue Flaherty
- 4. Serge Tanguay



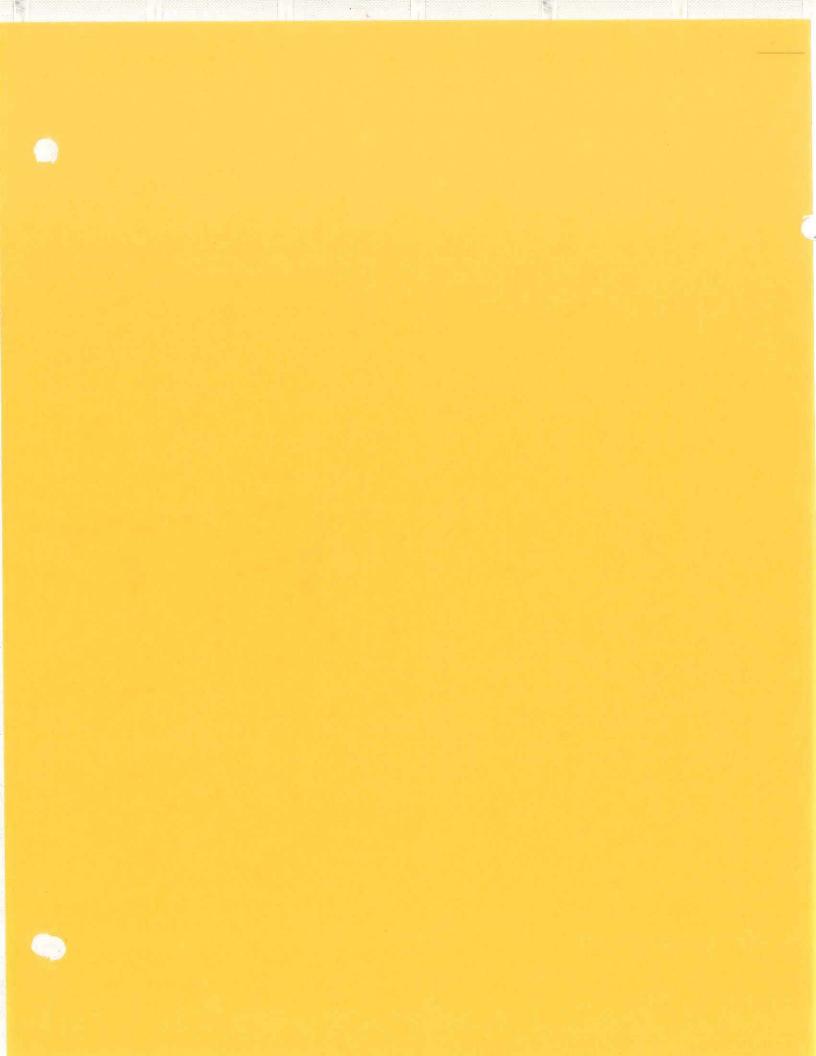
Locations of operations supervised by Montreal:

Montreal Valleyfield Quebec City Dartmouth As above

Nonresponsive

Nonresponsive

Nonresponsive



June 30, 1992

Van Waters & Rogers Inc. Cincinnati Facility 3025 Exon Avenue Evendale, Ohio 45241

U.S. EPA I.D. #: Ohio EPA Permit #: OHD 002 899 847 05-31-0629

CLOSURE & POST-CLOSURE PLANS RCRA Part B Permit Container Storage

Applicable Regulations: (40 CFR, 265.110-115)

(OAC 3745-55-10 through 51)

Van Waters & Rogers Inc. subsidiary of Univar

600 HUNTER DRIVE OAK BROOK, IL 60521-192 PHONE (708) 573-430U FAX (708) 573-2536

CERTIFICATION

(40 CFR Part 270.11) (OAC 3745-50-42)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:

James F. Lacey

Regional Vice President

Date:

6-30-92



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SECTION 1.0 INTRODUCTION

This closure plan outlines the steps necessary to close the RCRA interim status hazardous waste container storage area at this Van Waters & Rogers (VW&R) facility.

The plan is being submitted for review and comment to the Ohio Environmental Protection Agency and the U.S. Environmental Protection Agency - Region V. Comments received from the regulatory agencies will be incorporated into a revised closure plan. The revised closure plan will be submitted for approval to the agencies listed above. Implementation of the closure plan will begin when approval of the plan is received.

SECTION 2.0 GENERAL INFORMATION

Van Waters & Rogers Inc. (VW&R), a Washington corporation based in Kirkland, Washington at 6100 Carillon Point, is a nationwide distributor of common industrial chemicals (Standard Industrial Classification 5169).

Van Waters and Rogers Inc. has been in the business for over 136 years. We operate over 110 facilities nationwide. Our customers represent a wide range of industries, including food and pharmaceutical producers, the electronics industry, paints and coatings manufacturers, plastics manufacturers, cleaning industries, clothing manufacturers, cosmetics, compounding, and many other businesses producing goods and services each of us use every day.

As a distributor, Van Waters & Rogers Inc. does not manufacture the chemicals it distributes. Our product is service. Van Waters & Rogers Inc. has the knowledge and resources to distribute chemicals efficiently and safely. We also have the capability to assist our customers with technical, regulatory, and health and safety issues.

Van Waters & Rogers Inc. provides a local inventory of chemical products for industry to have available on short notice. Our customers require specialty chemicals, often in less than

truckload quantities, or a variety of chemicals produced by several different manufacturers. We purchase chemical products in large quantities from these manufacturers, and resell them in smaller quantities to industries which use them to produce the goods and services they offer.

Van Waters & Rogers Inc. offers waste management services through its ChemCareTM department. ChemCareTM provides our customers, and other industries, with information, technical assistance and transportation logistics necessary to achieve collection and proper treatment, recycling or disposal of chemical by-products and waste materials. This includes assistance with waste sampling and paperwork.

VW&R customers are primarily low volume waste generators who accumulate less than truckload quantities of containerized waste at regular time intervals. VW&R handles only containerized waste through $ChemCare^{TM}$. VW&R does not engage in any waste blending or bulking operations.

The ChemCareTM program functions as a reverse distribution system by receiving, temporarily storing and shipping waste materials generated by our customers to RCRA authorized recycling, treatment, and disposal facilities (TSDRFs). A part of the ChemCareTM service is the ability of Van Waters & Rogers Inc. to store containers of waste produced by our smaller customers.

Operating a waste container storage facility allows Van Waters & Rogers Inc. to remove wastes from small generators on a timely basis, and to accumulate truckload sized quantities for transport to RCRA authorized TSDRFs. The result is safer handling in the most cost effective manner. ChemCareTM is a waste management service designed to provide viable waste management alternatives which reduce environmental risk to the community.

Our ChemCareTM service is offered at all of our chemical distribution facilities in the United States. At 26 of our facilities, including this facility, VW&R has the capability to store wastes in excess of the federal 10 day or applicable state transporter time limit in order to offer cost effective and environmentally responsible services to its customers. At some of these facilities, VW&R has received or applied for a RCRA Part B hazardous waste container storage permit.

VW&R has decided to operate the ChemCareTM business at this facility as a "transporter only". After the RCRA Interim Status storage unit is closed, the facility will still operate as a chemical distribution center. The facility will retain its RCRA status as a generator and a transporter of hazardous waste.

2.1 General Description of Facility

The Evendale Branch is located on 3.00 acres of land in an area

zoned for medium and heavy industrial uses. The property is surrounded on all sides by other industrial properties. The facility is fenced to control access to all areas of the property.

Located on the property is an office building (2,900 square feet), a large warehouse and loading docks (19,100 square feet), chemical storage yard (97,000 square feet), chemical tank farms (one for acids and one for solvents), and paved driveways and parking areas. Two storm drains are located in the yard. The yard slopes towards these drains to promote the drainage of stormwater away from the facility during precipitation events. The drains empty into the drainage ditch on the north side of the property. Each drain may be closed, when necessary, by a manually operated valve.

2.2 Waste Management Activities

The hazardous waste container storage unit operated under RCRA interim status regulations from May 1981 to September 1983. The U.S. Environmental Protection Agency issued a RCRA Part B Permit for a hazardous waste container storage facility in September 1983 (see Exhibit 2-C). The Ohio Environmental Protection Agency issued a RCRA Part B Permit in June 1985.

The facility recently ceased operating the RCRA hazardous waste

container storage unit. The facility has been able to manage its ChemCareTM business without having to store. Truckload quantities of waste are being scheduled within the 10 day transporter period. This means our customer's wastes are being manifested directly from the generator to a RCRA authorized TSDRF. The facility currently is acting only as transporter #1 or #2.

The RCRA interim status hazardous waste container storage operations at the facility consisted of the temporary storage of containers of hazardous waste until truckload sized quantities (about 60 to 70 drums) were accumulated. It took approximately 30 to 60 days, on average, to accumulate a truckload of waste containers. The wastes were then manifested and transported to a permitted treatment/disposal facility capable of properly handling the waste.

Containers of hazardous waste were unloaded and loaded by forklift trucks at the facility truck docks. The containers were moved from the truck docks to the storage unit by forklift.

Waste containers remained sealed at all times while on-site. The facility did not consolidate waste streams.

Different types of waste streams were stored and manifested to different permitted treatment facilities. For example, flammable wastes were stored for transport to alternative fuels or

incineration facilities; chlorinated organic liquids were stored for transport to recycling facilities, and wastewaters were stored for transport to permitted hazardous wastewater treatment facilities. Two or three loads of wastes were stored at one time until enough of one type was accumulated for transportation to the selected treatment facility. Although waste did not remain in storage for a long period of time, a large amount of waste moved through the facility annually.

The wastes were halogenated and non-halogenated solvents from non-specific sources displaying the hazardous characteristics of toxicity and ignitability. The wastes were classified using the EPA Waste Codes shown in the RCRA Part A application in Exhibit 2-D of this plan.

The hazardous wastes were generated by customers in the metal working, electronic, paint, ink, adhesive, pharmaceutical, photographic, electrical, rubber, and plastics industries. Hazardous wastes are restricted from land disposal and were accompanied by the proper notification and certification of its restriction and its applicable treatment standards. Incompatible waste streams were separated from each other during storage.

Equipment used at the facility was typical for a chemical repackaging and distribution business. Heavy equipment used at the facility included tractor-trailer rigs, straight trucks, and

fork lift trucks. Equipment used in the day to day business of the facility included containers, pumps, pallets, hoses, and scales. There was (and still is) spill clean-up equipment (inert absorbents, shovels, and recovery drums), as well as safety equipment (first-aid supplies, safety clothes, and fire extinguishers).

The facility does not utilize tanks or waste piles for the storage of hazardous waste. Additionally, no treatment, processing, or disposal of on-site or off-site generated hazardous waste takes place at the location.

2.3 Waste Storage Area

The area designated as the hazardous waste management unit is located in the outside yard area adjacent to the east side of the warehouse (see Exhibit 1-B). The secondary containment system is constructed of impervious concrete flooring and dike walls. The hazardous waste unit is not a perfect rectangle, but is five sided and each side is a different length.

Overall the unit covers 1,450 square feet. The storage unit is bermed and has a volume of 725 cubic feet or 5,423 gallons. The facility was authorized by its permits to store a maximum of 6,600 gallons (120 55-gallon drums) of containerized waste at any one time.

2.4 General Description of Surroundings/Land Use

The surrounding area is mixed medium industrial properties. On all sides of the facility are compatible property uses (light manufacturing and warehousing). The area is relatively well developed and there are few vacant properties interspersed amoung the industrial properties. There are no schools immediately adjacent to the site. The closest school to the facility is over one-half mile away.

The facility and the hazardous waste management unit are located within the 100-year floodplain of the West Branch of Mill Creek.

Mill Creek is a tributary to the Ohio River.

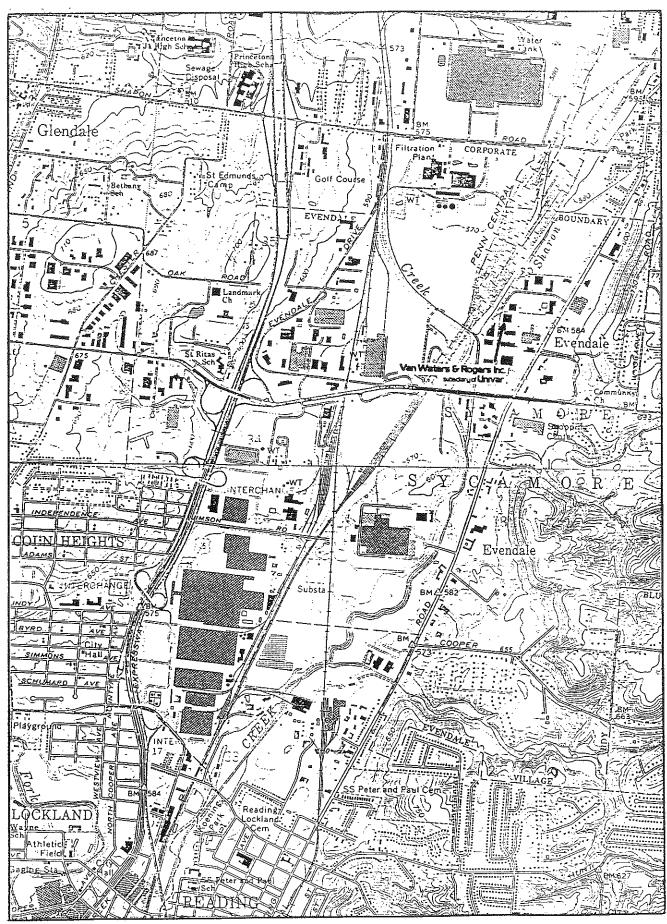
The facility, while shown on the floodplain map as being located in the floodplain, has not experienced a flood in recent history. Mill Creek at this point is near its headwaters and is intermittant at this location. Past flooding has been described as shallow overflowing of the streambank that was never very widespread. The drainage area at this location is small. Flooding occurs when the Ohio River floods and restricts the drainage of Mill Creek. When this happens, Mill Creek backs-up and overflows its banks.

The facility is located in an urbanized/industrialized area.

There are no wetlands, shorelands or other sensitive drainage

areas located within the general vicinity of the facility.

EXHIBIT 1-A FACILITY LOCATION MAP



Van Waters & Rogers Inc. Cincinnati Branch OHD 002 899 847

Cincinnati East, OH U.S.G.S 7.5 Quadrangle

EXHIBIT 1-B
FACILITY DIAGRAM

EXHIBIT 1-C OHIO EPA AND U.S. EPA RCRA PART B PERMITS

TRUST AGREEMENT

Trust Agreement. The "Agreement," entered into as of May 24, 1991, by and between Van Waters & Rogers Inc., a Washington corporation, the "Grantor," and Seattle First National Bank, a national bank, the "Trustee."

WHEREAS, the Ohio Environmental Protection Agency, "Ohio EPA," has established certain rules applicable to the Grantor, requiring that the owner or operator of a hazardous waste management facility must provide assurance that funds will be available when needed for closure and/or post-closure care of the facility,

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

NOW, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

- (a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.
- (c) The term "Director" means the Director of the Ohio EPA, or his designee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A.

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund" for the benefit of the Ohio EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund will be held by the Trustee, in trust, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Ohio EPA.

Section 4. Payment for Closure and Post-Closure Care. The Trustee will make such payments from the Fund as the Director will direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee will reimburse the Grantor or other persons as specified by the Director from the Fund for closure and post-closure expenditures in such amounts as the Director will direct, in writing. In addition, the Trustee will refund to the Grantor such amounts as the Director specifies in writing. Upon refund, such funds will no longer constitute pat of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund will consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee will invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines

which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling and managing the Fund, the Trustee will discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 USC §80a-2(a), will not be acquired or held, unless they are securities or other obligations of the federal or state government;
- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or state government; and
- (c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all the

provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. §80a-1 et seq., including one which may be created, managed, underwritten or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee will be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;
- (b) To make, execute, acknowledge and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other

securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee will at all times show that all such securities are part of the Fund;

- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or state government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund will be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee will be paid from the Fund.

Section 10. Annual Valuation. The Trustee will annually, at least thirty days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Director a statement confirming the value of the Trust. Any securities in the Fund will be valued at market value as of no more than sixty days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within ninety days after the statement has been furnished to the Grantor and the Director

will constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee will be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee will be entitled to reasonable compensation for its service as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee and this successor accepts the appointment. The successor Trustee will have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor Trustee's acceptance of the appointment, the Trustee will assign, transfer and pay over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor Trustee or for instructions. The successor Trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Director, and the present Trustee by certified mail ten days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section will be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests and instructions by the Grantor to the Trustee will be in writing, signed by such persons as are designated in the

attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee will be fully protected in acting without inquiry in accordance with the Grantor's orders, requests and instructions. All orders, requests, and instructions by the Director to the Trustee will be in writing, signed by the Director, and the Trustee will act and will be fully protected in acting in accordance with such orders, requests and instructions. The Trustee will have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Director hereunder has occurred. The Trustee will have no duty to act in the absence of such orders, requests and instructions from the Grantor and/or the Director except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee will notify the Grantor and the Director, by certified mail within ten days following the expiration of the thirty-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee is not required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Director, or by the Trustee and the Director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust will be irrevocable and will continue until terminated at the written agreement of the Grantor, the Trustee, and the Director or by the Trustee and the Director if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, will be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee will not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Director issued in accordance with this Agreement. The Trustee will be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement will be administered, construed and enforced according to the laws of the state of Ohio.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement will not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in paragraph (A)(1) of rule 3745-55-51 of the Ohio Administrative Code as such regulations were constituted on the date first above written.

(Seal)

Title

ior Vice President

and Corporate Affair

ATTEST:

Title

Vice President, General Counsel and

A Hekhen

Corporate Secretary

(Seal)	Title	TRUSTEE AMARA a. Jo
STATE OF WASHINGTON) COUNTY OF KING) On this May 21, 1991 , before me per me known, who, being by me duly sworn, of		
	she/he oration of said it was s signed	described in and which executed the corporation; that the seal affixed to so affixed by order of the Board of
STATE OF WASHINGTON) COUNTY OF KING		
On this MAY 24,1991, before me per me known, who, being by me duly sworn, of SEAFILS, WASHINGTON, that of SEAFILST RANK, the corpabove instrument; that she/he knows the seal such instrument is such corporate seal; that Directors of said corporation, and that she/he	did dep t she/he oration of said it was	described in and which executed the corporation; that the seal affixed to so affixed by order of the Board of

SCHEDULE A

This Agreement demonstrates financial assurance for the following cost estimates for the following facilities:

U.S. EPA ID# of Facility	Name and Address of Facility	Cost Estimates For Which Financial Assurance Being Demonstrated by This Agreement
OHD 071107791	Cleveland/Bedford Heights 1686 East Highland Road Twinsburg, OH 44087	\$12,958
OHD 002899847	Cincinnati/Evendale 3025 Exon Avenue Cincinnati, OH 45241	\$11,882
	Total	\$24,840

The cost estimates listed here were last adjusted on February 4, 1987.

SCHEDULE B

The Grantor, Van Waters & Rogers Inc., has established the attached trust as a standby trust in conjunction with a closure and/or post-closure surety bond guaranteeing payment into a closure trust fund established in favor of the Grantor in accordance with 40 CFR 264.143 and 40 CFR 265.143 (closure) and 40 CFR 264.144 and 40 CFR 265.144 (post-closure), adopted in Ohio in paragraph (A)(1) of rule 3745-55-51 of the Ohio Administrative Code. This trust shall become active only when the Ohio Environmental Protection Agency draws upon the surety bond following a determination pursuant to the Ohio Hazardous Waste Management Regulations that the Grantor has failed to perform final closure and/or post-closure in accordance with the closure and/or post-closure plan and other permit requirements when required to do so, and the provisions in the trust agreement pertaining to an active trust shall be come applicable at that time.

EXHIBIT A

<u>Name</u> <u>Title</u>

James W. Bernard President and Chief Executive Officer

William A. Butler Vice President, General Counsel &

Corporate Secretary

Bevan A. Cates Senior Vice President --

Marketing/Sales/Material Management

Dick A. Davis Senior Vice President -- Operations

Gerald R. Fischer Vice President - Marketing

James L. Fletcher Senior Vice President -- Environmental

and Corporate Affairs

David E. Olson Assistant Treasurer

Gary E. Pruitt Vice President and Treasurer

Van Waters & Rogers Inc. 801 Second Avenue, Suite 1600 Seattle, WA 98104

Any one of the above persons may provide and sign the instructions to the Trustee, as provided in Section 14.

AlU Insurance Company
American Home Assurance Company
Granite State Insurance Company
The Insurance Company of the State of Pennsylvania
National Union Fire Insurance Company of Pittsburgh, Pa.

Jw Hampshire Insurance Company



American International Companies

Principal Bond Office 70 Pine Street, New York, N.Y. 10270

FINANCIAL GUARANTEE BOND

Date Bond Executed:

August 3, 1990

Effective Date:

October 31, 1990

Principal:

Van Waters & Rogers Inc.

1600 Norton Building

Seattle, Washington 98104

Type of Organization:

Corporation

State of Incorporation:

Washington

Surety:

National Union Fire Insurance Company of Pittsburgh, Pa.

70 Pine Street

New York, New York 10270

EPA Identification Number, name, address, and closure/post-closure amount(s) for each facility guaranteed by this bond:

EPA Identification Number:

OHD002899847

Name:

Van Waters & Rogers Inc.

Address:

3025 Exon Avenue Evendale, Ohio 45241

Total Penal Sum of the Bond:

\$13,116.18

Surety's Bond Number:

UVR 1990-21

KNOW ALL PERSONS BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto are firmly bound to the Ohio Environmental Protection Agency ("Ohio EPA") in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that where the Surety(ies) are corporations acting as co-sureties, we, the Surety(ies), bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

WHEREAS said Principal is required to have an Ohio EPA permit or permits, in order to own or operate each hazardous waste management facility identified above, and

WHEREAS said Principal is required to provide financial assurance for closure, or closure and post-closure care, of the facility(ies) as a condition of the permit(s), and

WHEREAS said Principal shall establish a standby trust fund as specified by rule 3745-55-43 or 3745-66-43 of the Ohio Administrative Code.

NOW, THEREFORE, THE CONDITIONS OF THE OBLIGATION ARE SUCH That if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

OR, if the Principal shall fund the standby trust fund in such amount(s) within fifteen (15) days after an order to begin closure is sued by the Director or an Ohio court, or a U.S. district court or other court of competent jurisdiction, or within fifteen days after otice of revocation of the permit(s) by the Director to suspend facility operations.

OR, if the Principal shall provide alternate financial assurance, as specified in rule 3745-55-43 or 3745-66-43 of the Ohio Administrative Code as applicable, and obtain the Director's written approval of such assurance, within ninety (90) days after the date notice of cancellation is received by both the Principal and the Director from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

THE SURETY(IES) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Director that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Director.

THE LIABILITY of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless or until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

THE SURETY(IES) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Director, provided, however, that cancellation shall not occur during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the Principal and the Director, as evidenced by the return receipt(s) or while a compliance procedure is pending, a defined in rule 3745-55-41 or 3745-66-41 of the Ohio Administrative Code.

THE PRINCIPAL may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Director.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

HE PERSONS whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in paragraph (B) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date this bond was executed.

PRINCIPAL

Signature(s): Name(s):

Title(s):

Corporate Seal:

Barry C. Maulding Corporate Secretary

CORPORATE SURETY(IES)

Name and Address:

National Union Fire Insurance Company of Pittsburgh, Pa.

70 Pine Street

New York, New York 10270

State of Incorporation:

Liability Limit: Signature(s):

Name(s) and Title(s):

Pennsylvania \$13,116.18

P. D. Dineen, Attorney-in-Fact

r nd Premium:

Corporate Seal:

\$131.00

No. 03-8-09115

KNOW ALL MEN BY THESE PRESENTS:

That American Home Assurance Company, a New York cooperation, and National Union Fire Insurance Company of Pottsburgh, Paga Fernsylvania corporation, does each beconvappoint.

---Kenneth D. Houtz, Thomas J. Jochums, Lori Whitted, Evelyn McCain, Cynthia L. Foy, P. D. Dineen: of Scattle, Washington---

its true and fawful Attining(s) in fact, with fell authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemindy and writings obligatory in the nature thereof, issued in the course of its business, and to bind the respective Company thereby

IN WITNESS WHEREOF, American Home Assurance Company and National Union Fire Insurance Company of Pittsburgh, Pathole each executed these presents.





this 19 day of April

._, 19<u>90</u>.

Frederick L. Gurba, Assistand Vice President

STATE OF NEW YORK | 55.

Onder 1 amor April

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CERTIFICATE

Excepts of Resolutions adopted by the Powds of Directors of American Home Assolution Company and National Union Fire Insurance Company of Pirtsburgh, Pallon May 18, 1976:

"BESOLVED, that the Chairman of the Scient of President, or any Vice President be, and hereby is, authorized to appoint Arthrees in Fact to represent and act for and on behalf of the Complem, to execute bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, and to attach thereto the corporate seal of the Company, in the transaction of its surety business.

"RESOLVED, that the signatures and attentations of such officers and the seal of the Company may be affixed to any such Power of Attenney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and bridging upon the Company when so affixed with respect to any bond, undertaking, recognizance or other contract of indemnity or writing obligatory in the nature thereof;

"RESOLVED, that any such Attorney in Fact delivering a secretarial certification that the foregoing is solutions still be in effect may insert in such certification the date thereof, said date to be not later than the date of delivery thereof by such Attorney in-Fact."

I, Mairren P. Folly, Secretary of American Home Assurance Company and of National Union Fire Insurance Company of Pittsburgh, Pa. do hereby certify that the foregoing excerpts of Resolutions adopted by the Boards of Directors of these corporations, and the Powers of Attorney is and pursuant thereto, are true and correct, and that both the Resolutions and the Powers of Attorney are in trill force and effect.

IN WITNESS WITH REQUEST these belowers as tray hand and affixed the tax similars and at rach corporation





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Manneen P. Tully, Secretary

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

- 1. National Union Fire Insurance Company of Pittsburgh, PA (the "Insurer"), of 70 Pine Street, New York, New York, 10270, hereby certifies that it has issued liability insurance covering bodily injury and property damage to Van Waters and Rogers Inc. (the "Insured"), of 1600 Norton Building, Seattle, Washington, 98104, in connection with the Insured's obligation to demonstrate financial responsibility under Rules 3745-55-47 and 3745-66-47 of the Administrative Code. The coverage applies to the facility(ies) listed on Schedule A attached hereto for sudden accidental occurrences. The limits of liability are \$5,000,000 each occurrence with an annual aggregate of at least \$5,000,000, exclusive of legal defense costs. The coverage is provided under Policy Number PRM7063084, issued on March 1, 1989. The effective date of said policy is March 1, 1989.
- 2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:
- (a) Bankruptcy or insolvency of the Insured shall not relieve the Insurer of its obligations under the policy.
- (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated, as specified in Paragraph (F) of Rule 3745-55-47 or Paragraph (F) of Rule 3745-66-47 of the Administrative Code.

- Whenever requested by the Director of the Ohio Environmental Protection Agency, the Insurer agrees to furnish to the Director a signed duplicate original of the policy and all endorsements.
- (d) Cancellation of the insurance, whether by the Insurer or the Insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Director.
- Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Director.

I hereby certify that the wording of this instrument is identical to the wording specified in Paragraph (J) of 3745-55-51 of the Administrative Code, as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines Insurer, in one or more states.

> Signature of Authorized Representative of Insurer

Type Name Donald E. Laputka

Title Underwriting Manager Authorized Representative of National Union Fire Insurance Company of Pittsburgh, PA

SCHEDULE A

List of Facilities - Ohio

- 1. Name: Cincinnati Area Office
- 2. Address: 3025 Exon Avenue Evendale, Ohio 45241
- 3. Telephone Number: (513) 563-2440
- 4. Facility Manager/Contact: Ivan Byers
- 5. EDP Identification Number: #OHD002899847
- 6. Current Closure Cost Estimate: \$12,639
- 1. Name: Cleveland/Bedford Heights
- 2. Address: 26601 Richmond Drive
 Bedford Heights, Ohio 44146
- 3. Telephone Number: (216) 292-7500
- 4. Facility Manager/Contact: Cliff Moll
- 5. EDP Identification Number: #OHD071107791
- 6. Current Closure Cost Estimate: \$13,783

STATE OF OHIO

HAZARDOUS WASTE FACILITY INSTALLATION AND OPERATION PERMIT

MCKESSON CHEMICAL COMPANY

EVENDALE FACILITY

NO: 05-31-0629

HAZARDOUS WASTE FACILITY
APPROVAL BOARD

JUN 10 1985

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OHIO HAZARDOUS WASTE FACILITY BOARD

OHIO HAZARDOUS WASTE FACILITY INSTALLATION AND OPERATION PERMIT

OHIO MASIMDOOD WASID			
ame of Permittee:	McKesson Chemical Company		
Facility Mailing Address:	3025 Exon Avenue	- vormales annuales (SOC)	
	Evendale, Ohio 45241		
Facility Location:	3025 Exon Avenue		
•	Evendale, Ohio 45241		
Permit Number:	05-31-0629		
Permit Effective Date:	Date of Journalization		
Permit Expiration Date:	Five years after the da	te of Journalization	
AUTHORIZED ACTIVITIES			
In reference to the applic Hazardous Waste Facility I Chapter 3734 and the recor authorized to conduct at t waste management activitie	nstallation and Operatio d of proceedings in this he above-named facility	n Permit under R.C. matter, you are	
<u>X</u> Storage	Treatment	Disposal	
<pre>X_ContainerTankWaste PileSurface Impoundment</pre>	TankSurface ImpoundmenIncineratorOther	Injection WellLandfillLand ApplicationSurface Impoundment	
CONSTRUCTION AND OPERATION	OF FACILITY		
The hazardous waste facili accordance with all application. A.C. Rule 374 permit, and the hazardous application. In the instatherein, the language of the second se	able Ohio hazardous wast 5-50-10, the terms and o waste facility installat ance of discrepancies or	ce rules, as such term is conditions of this ion and operation permit inconsistent language	
PERMIT APPROVAL	·		
This permit approval is be matter, including the write is maintained at the office	ten OPINION AND FINAL O	RDER of the Board, which	
Entered into the Journal of	of the Board this 10 th d.	ay of JUNE 1985.	
by Edwin Y. Lim, Acting Ex Ohio Hazardous Waste Fa	recutive Director acility Board	HAZATBOUS WASTE FACULTY APPROVAL TOATO JUN 10 1985	
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A.1. Effect of Permit.

The Permittee is authorized to store hazardous waste in accordance with the terms and conditions of this permit, all applicable Ohio hazardous waste rules, and the hazardous waste facility installation and operation permit application. In the instance of discrepancies or inconsistent language between the permit, the application, or the rules, the language of the more stringent provision shall govern. Any management of hazardous waste not authorized by this permit is prohibited, unless otherwise expressly or specifically exempted by law. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to person or property, or invasion of other private rights. Compliance with the terms and conditions of this permit does not obviate Permittee's obligation to comply with other applicable provisions of law governing protection of public health or the environment.

A. 2. Permit Actions.

This permit may be modified, revised, revoked, suspended, or renewed as specified by Ohio law. The filing of a request for a permit modification, revision, revocation, suspension, or renewal or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit term and condition.

A.3. Permit Effective/Expiration Date.

The permit effective date is the date the permit is entered into the Journal of the Board. The permit expiration date is five (5) years after the date of journalization.

A.4. Severability.

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

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A.5. Duty to Comply.

The Permittee shall comply with all terms and conditions of this permit, except to the extent and for the duration such noncompliance is authorized by the laws of the State of Ohio. Any permit noncompliance, other than noncompliance authorized by the laws of the State of Ohio, constitutes a violation of R.C. Chapter 3734 and the rules adopted thereunder, and is grounds for enforcement action, suspension, revocation, modification, revision, denial of a permit renewal application, or other appropriate action.

A.6. Duty to Reapply and Permit Expiration.

If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must submit a completed application for an installation and operation permit renewal and any necessary accompanying general plans, detail plans, specifications, and such other information as the Director may require, to the Director no later than one hundred eighty (180) days prior to the expiration date of this permit or upon a later date prior to the expiration date if the Permittee can demonstrate good cause for the late submittal. This permit and all terms and conditions therein shall remain in effect beyond this permit's expiration date if the Permittee has submitted a timely, complete application and through no fault of Permittee a new permit has not yet been issued.

A.7. Need to Halt or Reduce Activity Not a Defense.

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the terms and conditions of this permit.

A.8. Duty to Mitigate.

The Permittee shall expeditiously take all steps necessary to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

A. 9. Proper Operation and Maintenance.

The Permittee shall at all times properly operate and maintain the facility (and related appurtenances) to achieve compliance with the terms and conditions of this permit.

HAZARDOUS WASTE FACILITY
APPROVAL BOARD

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Proper operation and maintenance includes, but is not limited to, effective management practices, adequate funding, adequate operator staffing and training, and where appropriate, adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of a back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the terms and conditions of the permit.

A. 10. Duty to Provide Information.

The Permittee shall furnish the Ohio Environmental Protection Agency, within a reasonable time, any relevant information which the Ohio Environmental Protection Agency may request to determine whether cause exists for modifying, revising, revoking or suspending this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Ohio Environmental Protection Agency, upon request, copies of records required to be kept by this permit.

A.11. Inspection and Entry.

The Permittee shall allow the Director, or an authorized representative, upon proper identification as may be required by law, to:

- (a) Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the terms and conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the terms and conditions of this permit; and
- (d) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by R.C. Chapter 3734 and the rules adopted thereunder, any substance or parameter at any location.

HAZARDOUS WASTE FACILITY
APPROVAL BOARD

A. 12. Monitoring and Records.

(a) Any sample and measurement taken for the purpose of monitoring shall be a representative sample or measurement, as such term is defined and used in the Ohio hazardous waste rules. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of O.A.C. Chapter 3745-51, Laboratory Methods.

Laboratory methods must be those specified in <u>Test</u>
Methods for Evaluating Solid Waste:

Physical/Chemical Methods, SW-846, June 1982;
Standard Methods for the Examination of Water and Wastewater, Fifteenth Edition, 1980, and 1981 supplement; or an equivalent method as specified in the waste analysis plan (permit application pages 171 through 220) or as such term is defined and used in the Ohio hazardous waste rules.

- (b) Records of monitoring information shall specify:
 - (i) The date(s), exact place(s), time(s) and method(s) of sampling or measurement;
 - (ii) The individual(s) who performed the sampling
 or measurement;
 - (iii) The date(s) analyses were performed;
 - (iv) The individual(s) who performed the analyses;
 - (v) The analytical technique(s) or method(s) used; and
 - (vi) The results of such analyses.

A.13. Retention of Records.

The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation and copies of all reports and records required by this permit for a period of at least three (3) years from the date of the sample, measurement, report, and record. The periods of record retention may be extended by request of the Ohio Environmental Protection Agency at any time and are automatically extended during the course of any unresolved enforcement action regarding the facility. The Permittee shall maintain, in accordance with the Ohio hazardous

HAZARDOES WASTE EXCLITY APPROVAL SCARD

waste rules, records of all data used to complete the permit application and any supplemental information prepared under O.A.C. Rules 3745-50-41, 3745-50-43, and 3745-50-44 and shall retain a complete copy of the application for the life of the facility.

A.14. Notices of Planned Changes.

The Permittee shall give notice in accordance with the terms and conditions of this permit and the Ohio hazardous waste rules of any planned operational or physical facility changes of any kind.

A. 15 Use of Facility.

- (a) The Permittee may not commence storage of hazardous waste; or should this facility be modified, the Permittee may not treat, store or dispose of hazardous waste in the modified portion of the facility, until:
 - (i) The Permittee has submitted to the Ohio Environmental Protection Agency, by certified mail or hand delivery, a letter signed by the Permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with applicable rules, the terms and conditions of this permit, and the permit application; and
 - (ii) The Ohio Environmental Protection Agency has inspected the modified or newly constructed facility and finds that it is in compliance with all applicable rules, the terms and conditions of this permit and the permit application.
- (b) The Permittee shall submit the following to the Ohio Environmental Protection Agency within ninety (90) days after the close of the company's fiscal year (March 31):
 - (i) Updated financial test demonstration for closure assurance, in accordance with O.A.C. Rule 3745-55-43 and O.A.C. Rule 3745-55-46, and worded as specified in O.A.C. Rule 3745-55-51;
 - (ii) Updated financial test demonstration for liability insurance, in accordance with O.A.C. Rule 3745-55-47, and worded as specified in O.A.C. Rule 3745-55-51; and

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- (iii) Updated cost estimate for closure in accordance with O.A.C. Rule 3745-55-42.
- (c) All hazardous waste shall be transported to and from the facility by a properly registered transporter of hazardous waste in accordance with all applicable laws, rules, and standards and the vast majority of the hazardous waste shall be transported by the Permittee or one of its affiliates; and
- (d) All hazardous waste removed from the facility shall be transported to a McKesson operated facility, except as otherwise provided in the contingency, closure, and container management plans with respect to disposal at appropriately permitted facilities.

A. 16. Anticipated Noncompliance.

The Permittee shall give advance notice to the Ohio Environmental Protection Agency of any planned changes in the facility or operations which may result in noncompliance with the terms and conditions of this permit. Such notification does not waive the Permittee's duty to comply with this permit pursuant to Condition A.5.

A.17. Transfer of Permit.

This permit may be transferred to a new owner or operator only if such transfer is conducted in accordance with R.C. Chapter 3734 and the rules adopted thereunder. Before transferring ownership or operation of the facility the Permittee shall notify the new owner or operator in writing of the requirements of R.C. Chapter 3734 and the rules adopted thereunder.

A.18. Compliance Schedules.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted to the Ohio Environmental Protection Agency no later that fourteen (14) days following each scheduled date, unless otherwise specified in the compliance schedule.

HAZARDOUS WASTE FACILITY

APPROVAL BOAGO

A. 19. Immediate Reporting of Noncompliance.

The Permittee shall immediately report to the Ohio Environmental Protection Agency Office of Emergency Response any noncompliance with this permit, R.C. Chapter 3734 or the rules adopted thereunder, which noncompliance may endanger human health or the environment. Such report shall consist of the information listed in Condition A. 19 (a) and (b) that is available at such time. After initial notification, the Permittee shall immediately report to the Ohio Environmental Protection Agency Office of Emergency Response any subsequent changes in the situation as conditions warrant until the Permittee has provided the Ohio Environmental Protection Agency Office of Emergency Response with all the informational requirements of this condition and in no event shall this information be reported to the Ohio Environmental Protection Agency Office of Emergency Response later than twenty-four (24) hours after the initial report. The report shall include the following:

- (a) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water 'supplies; and
- (b) Information concerning a release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health inside or outside the facility. The description of the occurrence and its cause shall include:
 - (i) Name, address, and telephone number of the owner or operator;
 - (ii) Name, address, and telephone number of the facility;

 - (iv) Local weather conditions;
 - (v) Name and quantity of material(s) involved;
 - (vi) The extent of injuries, if any;
 - (vii) An assessment of actual or potential hazard to the environment and human health inside and outside the facility, where this is applicable;
 - (viii) The response the Permittee has taken to contain and monitor the release, discharge or incident;

HAZARDOUS VASTE SECRETY
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- (ix) Who has been notified;
- (x) Any monitoring results; and
- (xi) Estimated quantity and disposition of recovered material that resulted from the release, discharge or incident.

A.20. Follow-Up Written Report of Noncompliance.

A written report shall also be provided to the Ohio Environmental Protection Agency Office of Emergency Response within five (5) days of the time the Permittee becomes aware of the circumstances reported in condition The written report shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected, and if not, the anticipated time it is expected to continue; and steps taken or planned to minimize the impact on human health and the environment and to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee need not comply with the five day written report requirement if the Director, upon good cause shown by the Permittee, by order waives that requirement and the Permittee submits a written report within fifteen (15) days of the time the Permittee becomes aware of the circumstances.

A.21. Other Noncompliance.

The Permittee shall report to the Ohio Environmental Protection Agency Division of Solid and Hazardous Materials Management all other instances of noncompliance not provided for in Condition A.19, at the time monitoring reports are submitted. The reports shall contain the information set forth in Condition A.19.

A.22. Other Information.

If at any time the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect, misleading, or incomplete information in the permit application or in any other submission or report to the Ohio Environmental Protection Agency or the Ohio Hazardous Waste Facility Board, the Permittee shall promptly submit such facts, information, or corrected information to such entities.

HAZARDOUS WASTE FACILITY APPROVAL-8CARD

A.23. Signatory Requirement.

All reports or other information required by the terms and conditions of this permit or requested by the Ohio Environmental Protection Agency shall be signed and certified according to O.A.C. Rule 3745-50-42.

A. 24. Confidential Information.

In accordance with R.C. Chapter 3734 and the rules adopted thereunder, the Permittee may request confidentiality of any information required to be submitted by the terms and conditions of this permit.

A.25. Ohio Permit Annual Fee.

The permit annual fee, payable to the Treasurer of State, shall be submitted to the Ohio Environmental Protection Agency on or before the anniversary of the date of issuance during the term of the permit. As used in this permit, the date of issuance is the date the permit was entered into the Journal of the Board.

A. 26. Compliance Schedule - Documents.

- (a) The Permittee shall submit to the Ohio Environmental Protection Agency within sixty (60) days after permit issuance, for its approval, a written description of the continuing and introductory training program for the branch operations manager and the branch administrative manager. This description shall briefly outline the subject matter and content of the training that each of these managers receives. No hazardous waste shall be stored at the facility pursuant to this permit without the aforementioned approval of the Ohio Environmental Protection Agency.
- (b) The Permittee shall submit to the Ohio Environmental Protection Agency within sixty (60) days after permit issuance, for its approval, a complete and accurate description of the containment area including blueprints, materials of construction of all components, and the construction methods that will be used or were used in order to create an integral unit which prevents contaminant migration or runon. No hazardous waste shall be stored at the facility pursuant to this permit without the aforementioned approval of the Ohio Environmental Protection Agency.

HAZARDOUS WASTE FACILITY
APPROVAL MODER

A. 27. Documents to be Maintained at Facility.

- (a) The Permittee shall maintain at the facility until closure is completed and certified by an independent registered professional engineer the following documents and amendments, revisions, and modifications to these documents:
 - (i) Waste analysis plan submitted in accordance with O.A.C. Rule 3745-54-13 and the terms and conditions of this permit;
 - (ii) Contingency plan submitted in accordance with O.A.C. Rule 3745-54-53 and the terms and conditions of this permit;
 - (iii) Closure plan submitted in accordance with O.A.C. Rule 3745-55-12 and the terms and conditions of this permit;
 - (iv) Cost estimate for facility closure submitted in accordance with O.A.C. Rule 3745-55-42 and the terms and conditions of this permit;
 - (v) Personnel training plan and the training records required by O.A.C. Rule 3745-54-16 and the terms and conditions of this permit;
 - (vi) Operating record required by O.A.C. Rule
 3745-54-73 and the terms and conditions of
 this permit; and
 - (vii) Inspection schedules developed in accordance with O.A.C. Rules 3745-54-15 and 3745-55-74 and the terms and conditions of this permit;
- (b) All amendments, revisions and modifications to any plan or cost estimate required by the terms and conditions of this permit or the Ohio hazardous waste rules shall be submitted to the Ohio Environmental Protection Agency. No such change shall be made unless the Permittee has received approval in accordance with the Ohio hazardous waste rules.

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B. GENERAL FACILITY

B.1. Construction, Maintenance and Operation of Facility.

The Permittee shall construct, maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or ground or surface water.

B.2. Required Notice.

- (a) The Permittee shall notify the Ohio Environmental Protection Agency in writing at least four (4) weeks in advance of the date the Permittee expects to receive hazardous waste from a non-United States source. Notice of subsequent shipments of the same waste from the same non-United States source in the same calendar year is not required.
- (b) When the Permittee is to receive hazardous waste from an offsite source, the Permittee shall inform the generator in writing that it has the appropriate permits for, and will accept, the waste the generator is shipping. The Permittee shall keep a copy of this written notice as part of its operating record.

B.3. General Waste Analysis Plan.

The Permittee shall follow the procedures described in the waste analysis plan (permit application pages 171 through 220).

B.4. Security.

The Permittee shall comply with the security provisions of O.A.C Rule 3745-54-14 (permit application pages 221 through 223).

B.5. General Inspection Requirements.

The Permittee shall follow the procedures and schedules described in the inspection plan (permit application pages 224 through 232). The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by O.A.C. Rule 3745-54-15 (C). Records of inspections shall be kept as required by O.A.C. Rule 3745-54-15 (D).

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B.6. Personnel Training.

The Permittee shall conduct personnel training as required by O.A.C. Rule 3745-54-16. This training program shall follow the outline set forth in the permit application at pages 279 through 319 and the Ohio Environmental Protection Agency approved outline. (See Condition A.26(a)) The Permittee shall maintain training documents and records as required by O.A.C. Rule 3745-54-16 (D) and (E).

B.7. General Requirements for Ignitable, Reactive, or Incompatible Waste.

The Permittee shall comply with the requirements of O.A.C Rule 3745-54-17 (A) and (B) and the documentation requirements of O.A.C. Rule 3745-54-17 (C). (Permit application at pages 264 through 266)

B.8. Required Equipment.

At a minimum, the Permittee shall equip the facility with the equipment set forth in the permit application (contingency plan, pages 233 through 259 and 437 through 498), as required by O.A.C. Rule 3745-54-32 and the permit terms and conditions.

B.9. Testing and Maintenance of Equipment.

The Permittee shall test and maintain the equipment specified in the previous permit condition as necessary to assure its proper operation in time of emergency, as is specified in O.A.C. Rule 3745-54-33, the permit application, and the permit terms and conditions.

B.10. Access to Communications or Alarm System.

The Permittee shall maintain access to communications or an alarm system as required by O.A.C. Rule 3745-54-34, the permit application, and the terms and conditions of the permit.

B.11. Required Aisle Space.

At a minimum, the Permittee shall maintain aisle space as required or specified by O.A.C. Rule 3745-54-35, the permit application, and the terms and conditions of the permit.

HAZARDOUS WASTE FACILITY APPROVAL BOARD

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B.12. Arrangements with Local Agencies.

- (a) The Permittee shall make a diligent effort to:
 - (i) Familiarize the emergency response agencies listed in the contingency plan (permit application page 461) with the layout of the facility, properties of hazardous waste managed at the facility and associated hazards, places where facility personnel will normally be working, entrances to roads inside the facility, and possible evacuation routes;
 - (ii) Inform the agencies listed in the contingency plan of safety equipment, supplies, proper emergency safety procedures that are applicable to the facility, and any further requirements imposed by the terms and conditions of the permit; and
 - (iii) Familiarize the Bethesda North Hospital with the properties of the hazardous waste managed at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.
- (b) Where a State or local agency declines to enter into such arrangements as are set forth in O.A.C. Rule 3745-54-37 (A), the Permittee shall document the refusal in the operating record as required by O.A.C. Rule 3745-54-37 (B) and notify the Ohio Environmental Protection Agency of such refusal.
- (c) The Permittee shall, in accordance with O.A.C. Rule 3745-54-53, submit a copy of its contingency plan, including all amendments, revisions or changes, to the agencies designated in the contingency plan. The Permittee shall notify the agencies, in writing, within ten (10) days of the effective date of any amendments, revisions or changes to the contingency plan.

B.13. Contingency Plan Implementation.

The Permittee shall immediately implement the provisions of the contingency plan and follow the emergency procedures described in O.A.C. Rule 3745-54-56, whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which threatens or could threaten human health or the environment.

HAZARDOUS WASTE FACILITY
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B.14. Content of Contingency Plan.

The Permittee shall comply with O.A.C. Rule 3745-54-52 and the contingency plan as set forth in pages 233 through 259 and 437 through 498 of the permit application.

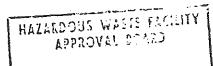
B.15. Contingency Plan - Released Material and Emergency Response Material and By-Products.

In the event of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents which necessitates the implementation of the facility's contingency plan, the Permittee shall shut off the storm drains on the facility property. All fire, explosion, or released material and emergency response material and by-products shall be collected and managed as hazardous waste until the Permittee can, pursuant to the Ohio hazardous waste rules, demonstrate to the approval of the Ohio Environmental Protection Agency that such material is not subject to the requirements of such rules.

B.16. Contingency Plan - Accumulated Precipitation.

The Permittee shall not manage hazardous waste at the facility pursuant to this permit unless:

- (a) The Permittee has submitted to the Ohio Environmental Protection Agency a certified statement that all accumulated precipitation at the facility will be managed as a hazardous waste; or
- (b) The Permittee has submitted to the Ohio Environmental Protection Agency, and the Ohio Environmental Protection Agency has approved, an analysis plan to be implemented at the facility, which plan does not rely exclusively on visual and olfactory inspections and is capable of determining whether accumulated precipitation is contaminated, thereby requiring its management as a hazardous waste; or
- (c) The Permittee has submitted to the Ohio Environmental Protection Agency, and the Ohio Environmental Protection Agency has approved, a plan to be implemented at the facility which will ensure that precipitation does not enter the area in which hazardous waste is managed.



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B.17. Amendment of Contingency Plan.

The Permittee shall regularly review and, if necessary, immediately amend the contingency plan as required by O.A.C. Rule 3745-54-54.

B.18. Emergency Coordinator.

The Permittee shall comply with the requirements set forth in O.A.C. Rule 3745-54-55 regarding the emergency coordinator.

B.19. Emergency Procedures.

The Permittee shall comply with the requirements set forth in O.A.C. Rule 3745-54-56 regarding emergency procedures.

B.20. Manifest.

The Permittee shall comply with the manifest requirements set forth in O.A.C. Rules 3745-54-71, 3745-54-72, and 3745-54-76.

B.21. Operating Record and Availability, Retention and Disposition of Records.

The Permittee shall maintain a written operating record at the facility as set forth in O.A.C. Rules 3745-54-73 and 3745-54-74.

B.22. Annual Report and Additional Reports.

The Permittee shall comply with the Annual Report requirements set forth in O.A.C. Rule 3745-54-75 and the additional report requirements set forth in O.A.C. Rule 3745-54-77.

B.23. Closure Performance Standard.

The Permittee shall close the facility as required by O.A.C. Rule 3745-55-11.

B.24. Closure Plan.

The Permittee shall carry out the closure plan as set forth in pages 320 through 330 of the permit application.

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B.25. Amendment of Closure Plan.

The Permittee shall amend the closure plan in accordance with O.A.C. Rule 3745-55-12 (B).

B.26. Notification of Closure.

As set forth in O.A.C. Rule 3745-55-12, the Permittee shall notify the Ohio Environmental Protection Agency at least one hundred eighty (180) days prior to the date Permittee expects to begin closure.

B.27. Time Allowed For Closure.

After receiving the final volume of hazardous waste, the Permittee shall remove from the facility all hazardous waste and complete closure activities in accordance with the schedule specified in the closure plan and as required by O.A.C. Rule 3745-55-13.

B.28. Disposal or Decontamination of Equipment.

The Permittee shall decontaminate and/or dispose of all facility equipment as required by O.A.C. Rule 3745-55-14 and the closure plan.

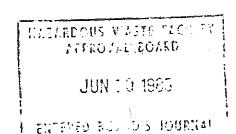
B.29. Certification of Closure.

The Permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan as required by of O.A.C. Rule 3745-55-15.

B.30. Cost Estimate for Facility Closure.

The Permittee's original closure cost estimate, prepared in accordance with O.A.C. Rule 3745-55-42 (A), is specified in the closure plan. The Permittee shall:

- (a) Adjust the closure cost estimate for inflation within thirty (30) days after each anniversary of the date on which the first closure cost estimate was prepared, as required by O.A.C. Rule 3745-55-42 (B).
- (b) Revise the closure cost estimate whenever there is a change in the facility's closure plan, as required by O.A.C. Rule 3745-55-42 (C).



(c) Keep at the facility the latest closure cost estimate, as required by O.A.C. Rule 3745-55-42 (D).

B.31. Financial Assurance for Facility Closure.

The Permittee shall demonstrate continuous compliance with O.A.C. Rules 3745-55-43 and 3745-55-46 by providing documentation of financial assurance, as required by O.A.C. Rule 3745-55-51, in at least the amount of the cost estimates required by permit condition No. B.30. Changes in the financial assurance mechanisms shall be approved by the Ohio Environmental Protection Agency pursuant to O.A.C. Rule 3745-55-43.

B.32. Liability Requirements.

The Permittee shall demonstrate continuous compliance with the requirements of O.A.C. Rule 3745-55-47, and the documentation requirements of O.A.C. Rule 3745-55-51, including the requirement to have and maintain liability coverage for sudden and accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs.

B.33. Closure.

The Permittee shall comply with O.A.C. Rule 3745-55-78 in accordance with the closure plan.

B.34. Incapacity of Owners or Operators, Guarantors, or Financial Institutions.

The Permittee shall comply with O.A.C. Rule 3745-55-48.

B.35. Facility Location.

The Permittee shall cause any hazardous waste stored at the facility to be removed safely to a location where the waste will not be vulnerable to flood waters before any flood waters can reach the facility, in accordance with O.A.C. Rule 3745-54-18 (B), and as set forth in pages 270 and 271 of the permit application.

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C. CONTAINER STORAGE.

C.1. Container Storage Capacity.

The Permittee shall not exceed a maximum container storage inventory of 6,050 gallons (in one hundred ten (110) containers of fifty-five (55) gallons capacity each).

C.2. Waste Identification.

The Permittee may store the following waste in containers at the facility subject to the terms and conditions of the permit:

Chemical	Hazard	Basis For Hazard Designation	
Tetrachloroethylene	Toxic	Listed waste F001, F002	
Trichloroethylene	Toxic	Listed waste F001, F002	
Methylene Chloride	Toxic	Listed waste F001, F002	
1,1,1-Trichloroethane	Toxic	Listed waste F001, F002	
Carbon Tetrachloride	Toxic	Listed waste F001	
Chlorinated Fluorocarbons	Toxic	Listed waste F001	
Chlorobenzene	Toxic	Listed waste F002	
Ortho-Dichlorobenzene	Toxic	Listed waste F002	
Trichlorofluoromethane	Toxic	Listed waste F002	
1,1,2-Trichloro-1,2,2- Trifluoroethane	Toxic	Listed waste F002	
Xylene	Ignitable	Listed waste F003	
Acetone	Ignitable	Listed waste F003	
Ethyl Acetate	Ignitable	Listed waste F003	
Ethyl Ether	Ignitable	Listed waste F003	
Methyl Isobutyl Ketone	Ignitable	Listed waste F003	
n-Butyl Alcohol	Ignitable	Listed waste F003	

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Cyclohexanone Ignitable Listed waste F003

Methanol Ignitable Listed waste F003

Toluene Toxic, Ignitable Listed waste F005

Methyl Ethyl Ketone Toxic, Ignitable Listed waste F005

Isobutanol Toxic, Ignitable Listed waste F005

C.3. Condition of Containers.

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in a manner that complies with the requirements of this permit.

C.4. Compatibility of Waste with Containers.

The Permittee shall ensure that the ability of the container to contain the waste is not impaired as required by O.A.C. Rule 3745-55-72.

C.5. Management of Containers.

The Permittee shall manage containers as required by 0.A.C. Rule 3745-55-73.

C.6. <u>Inspections</u>.

The Permittee shall comply with O.A.C. Rule 3745-55-74 and the inspection plan (permit application pages 224 through 232).

C.7. Containment System.

The Permittee shall construct, operate and maintain the containment system in accordance with the requirements set forth in O.A.C. Rule 3745-55-75, the permit application, and the terms and conditions of the permit. (See Condition No. A.26(b))

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C.8. Special Requirements for Ignitable or Reactive Waste.

As required by O.A.C. Rule 3745-55-76, the Permittee shall not locate containers holding ignitable or reactive waste within fifteen (15) meters [fifty (50) feet] of the facility's property line.

C.9. Waste Compatibility.

As required by 0.A.C. Rule 3745-55-77, the Permittee shall store only hazardous waste which are mutually compatible.

C.10. Ninety Day Container Storage Limitation.

Prior to the receipt of any hazardous waste at the facility pursuant to this permit, the Permittee shall create a system whereby it can maintain a record of the date that each container of hazardous waste is received onsite. Pursuant to the implementation of that system, the Permittee shall not store any container for a period greater than ninety (90) days.

D. ADDITIONAL TERMS AND CONDITIONS

D.1 Material Safety Data Sheets

The Permittee shall maintain an up-to-date set of material safety data sheets at the Evendale Fire Department, Evendale Police Department and Bethesda North Hospital. Should the Permittee either receive new information concerning the properties of any of the hazardous waste managed onsite or manage newly permitted hazardous waste, the Permittee shall immediately forward this information to these three entities and confirm its receipt. The forwarding and confirmation of receipt shall be reflected in the facility's operating record.

D.2. Submittals To the Ohio Environmental Protection Agency.

Unless otherwise specified in this permit, all submittals to the Ohio Environmental Protection Agency shall be sent to:

HAZARDOUS WASTE FACED I APPROVAL BCARD JUN 10 1985 Ohio EPA
Division of Solid and Hazardous
Materials Management
Post Office Box 1049
Columbus, Ohio 43216-1049

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CERTIFICATION

I hereby certify that the foregoing is a true and accurate copy of the WRITTEN OPINION AND FINAL ORDER and HAZARDOUS WASTE FACILITY INSTALLATION AND OPERATION PERMIT issued to the McKesson Chemical Company for its hazardous waste facility located at 3025 Exon Avenue, Evendale, Ohio, Case No.: 83-NF-0629, Permit No.: 05-31-0629, entered into the Journal of the Hazardous Waste Facility Board on the 10th day of June, 1985.

Edwin Y. Lip

Acting Executive Director

Custodian of the Journal of the Hazardous Waste Facility Board.

Dated this

10th

day of June, 1985 at

Columbus, Ohio.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V HAZARDOUS WASTE MANAGEMENT PERMIT

•				•	
Name of Permittee:	McKesson (Chemical Company	ALL THE	No. of the last of	
Facility Location:	3025 Exon	Avenue, Evendale,	Ohio 45241		
EPA Identification	Number:	OHD-002-899-847	. Fací:	RECEIVED	
Effective Date:	September	29, 1983	The state of the s	- C.C. C. C.	
Expiration Date:	September	29, 1993	ı	1 0 1304	
Authorized Activity	ies	\	U.S.	EPA, Region III	
In reference to Mediunder the Solid Wast 6901, et seq., commo RCRA) and the admin- named facility the	te Disposal only known a istrative re	Act, Subtitle C, a as the Resource Con ecord, you are auth	s amended (42 servation and orized to cond	U.S.C., Section Recovery Act or fuct at the above-	
X Storage		Treatment		Disposal	
X Container Tank Waste Pile Surface Impo	undment	Tank Surface I Incinerat Other	mpoundment or	Injection Well Landfill Land Application Surface Impoundme	ent
Applicable Regulation	ons:				
The conditions of the provisions of 40 CF	nis permit : R Part:	were developed in a	accordance with	the applicable	
X 270 X 261 X 262 X 264, Subpart	$\frac{\overline{X}}{X}$	264, Subpart G 264, Subpart H 264, Subpart I 264, Subpart J	2	264, Subpart K 264, Subpart L 264, Subpart O	
that are effective with the terms and				rate in accordance	
Permit Approval:					•
This permit approva at the United State					
Issued this	g	day of	Septembe	1983	
	telos, Dire	ctor	·	· · · · · · · · · · · · · · · · · · ·	
∦ Waste Management	Division				

STANDARD CONDITIONS

A. EFFECT OF PERMIT

The Permittee is allowed to store hazardous waste in accordance with the conditions of this permit. Any storage of hazardous waste not authorized in this permit is prohibited. Compliance with this permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations. Compliance with the terms of this permit does not constitute a defense to any order issued or any action brought under Section 3013 or Section 7003 of RCRA, Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9606 (a), commonly known as CERCLA), or any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 270.41, 270.42, and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, other than non-compliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

- 2. Duty to Reapply. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee shall submit a complete application for a new permit at least '180 days before this permit expires.
- 3. Permit Expiration. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 40 CFR 270.13 270.16) and through no fault of the Permittee the Regional Administrator has not issued a new permit as set forth in 40 CFR 270.51.
- 4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- 5. Duty to Mitigate. The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.
- 6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.
- 7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.
- 8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:
 - (a) Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

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- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (d) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

9. Monitoring and Records.

- (a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, June 1982; Standard Methods for the Examination of Water and Wastewater, 1980; or an equivalent method as specified in the attached Waste Analysis Plan, Attachment I.
- (b) The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or record. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.
- (c) Records of monitoring information shall specify:
 - (i) The dates, exact place, and times of sampling or measurements;
 - (ii) The individuals who performed the sampling or measurements;
 - (iii) The dates analyses were performed;

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- (iv) The individuals who performed the analyses;
- (v) The analytical techniques or methods used; and
- (vi) The results of such analyses.
- 10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.
- 11. Certification of Construction or Modification. No certification of construction or modification is necessary prior to commencement of storage of hazardous waste, as all necessary modifications have been effected prior to permit issuance.
- 12. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- 13. Transfer of Permits. This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR 270.41(b)(2) or 270.42(d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270.
- 14. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

- 15. Twenty-four Hour Reporting. The Permittee shall report to the Regional Administrator any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:
 - (a) Information concerning the release of any hazardous waste which may endanger public drinking water supplies.
 - (b) Information concerning the release or discharge of any hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:
 - (i) Name, address, and telephone number of the owner or operator;
 - (ii) Name, address, and telephone number of the facility;
 - (iii) Date, time, and type of incident;
 - (iv) Name and quantity of materials involved;
 - (v) The extent of injuries, if any;
 - (vi) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and
 - (vii) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee need not comply with the five day written notice requirement if the Regional Administrator waives the requirement and the Permittee submits a written report within fifteen days of the time the Permittee becomes aware of the circumstances.

- 16. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, at the time monitoring reports, as required by this permit, are submitted. The reports shall contain the information listed in condition I.D.15.
- 17. Other Information. Whenever the Permittee becomes aware that he failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such facts or information.
- E. <u>Signatory Requirement</u>. All reports or other information requested by the Regional Administrator shall be signed and certified as required by 40 CFR 270.11.
- F. Confidential Information. The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR 270.12.
- G. Documents To Be Submitted Prior to Operation. No documents are required to be submitted prior to operation.
- H. Documents To Be Maintained at Facility Site. The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:
 - (1) Waste analysis plan as required by 40 CFR 264.13 and this permit.
 - (2) Personnel training documents and records as required by 40 CFR 264.16(d) and this permit.
 - (3) Contingency plan as required by 40 CFR 264.53(a) and this permit.
 - (4) Closure plan as required by 40 CFR 264.112(a) and this permit.
 - (5) Cost estimate for facility closure as required by 40 CFR 264.142(d) and this permit.
 - (6) Operating record as required by 40 CFR 264.73 and this permit.
 - (7) Inspection schedules as required by 40 CFR 264.15(b) and this permit.

II. GENERAL FACILITY CONDITIONS

A. Design and Operation of Facility. The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

B. Required Notice.

- (1) The Permittee shall notify the Regional Administrator in writing at least four weeks in advance of the date the permittee expects to receive hazardous waste from a foreign source. Notice of subsequent shipments of the same waste from the same foreign source in the same calendar year is not required.
- (2) When the Permittee is to receive hazardous waste from an off-site source (except where the Permittee is also the generator), he must inform the generator in writing that he has the appropriate permits for, and will accept, the waste the generator is shipping. The Permittee must keep a copy of this written notice as part of the operating record. (See Condition II.K.1).
- C. General Waste Analysis. The Permittee shall follow the procedures described in the attached waste analysis plan, Attachment I.
- D. <u>Security</u>. The Permittee shall comply with the security provisions of 40 CFR 264.14(b) and (c).
- E. General Inspection Requirements. The Permittee shall follow the inspection schedule, Attachment II. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 40 CFR 264.15(c). Records of inspections shall be kept as required by 40 CFR 264.15(d).
- F. Personnel Training. The Permittee shall conduct personnel training as required by 40 CFR 264.16. This training program shall follow the attached outline, Attachment III. The Permittee shall maintain training documents and records as required by 40 CFR 264.16(d) and (e).
- General Requirements for Ignitable, Reactive, or Incompatible
 Waste. The Permittee shall comply with the requirements
 of 40 CFR 264.17(a).

H. Location Standards. The Permittee shall cause any hazardous waste stored at this facility to be removed sately to a location where the waste will not be vulnerable to flood waters, before any flood waters can reach the facility, in accordance with 40 CFR 264.18(b), and as specified in the attached facility location information, Attachment VI.

I. Preparedness and Prevention ···

- 1. Required Equipment. At a minimum, the Permittee shall equip the facility with the equipment set forth in the contingency plan, Attachment IV, as required by 40 CFR 264.32.
- Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition as necessary to assure its proper operation in time of emergency.
- 3. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system as required by 40 CFR 264.34.
- 4. Required Aisle Space. At a minimum, the Permittee shall maintain aisle space as required by 40 CFR 264.35.
- 5. Arrangements with Local Authorities. The Permittee shall attempt to make arrangements with State and local authorities as required by 40 CFR 264.37. If State or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

J. Contingency Plan.

- 1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the contingency plan, Attachment IV, and follow the emergency procedures described by 40 CFR 264.56 whenever there is a fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment.
- 2. Copies of Plan. The Permittee shall comply with the requirements of 40 CFR 264.53.
- 3. Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the contingency plan, as required by 40 CFR 264.54.
- 4. Emergency Coordinator. The Permittee shall comply with the requirements of 40 CFR 264.55, concerning the emergency coordinator.

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K. Manifest System. The Permittee shall comply with the manifest requirements of 40 CFR 264.71, 264.72, and 264.76.

L. Recordkeeping and Reporting,

- Operating Record. The Permittee shall maintain a written operating record at the facility in accordance with 40 CFR 264.73(a), (b)(1), (2), (3), (4), (5), (6), (7) and (8).
- 2. Biennial Report. The Permittee shall comply with the biennial report requirements of 40 CFR 264.75.

M. Closure.

- 1. <u>Performance Standard</u>. The Permittee shall close the facility as required by 40 CFR 264.111 and in accordance with the closure plan. Attachment V.
- 2. Amendment to Closure Plan. The Permittee shall amend the closure plan in accordance with 40 CFR 264.112(b) whenever necessary.
- 3. Notification of Closure. The Permittee shall notify the Regional Administrator at least 180 days prior to the date he expects to begin closure.
- 4. Time Allowed For Closure. After receiving the final volume of hazardous waste, the Permittee shall treat or remove from the site all hazardous waste in accordance with the schedule specified in the closure plan, Attachment V. After receiving the final volume of hazardous waste, the Permittee shall complete closure activities in accordance with the schedule specified in the closure plan, Attachment V.
- 5. Disposal or Decontamination of Equipment. The Permittee shall decontaminate and/or dispose of all facility equipment as required by 40 CFR 264.114 and the closure plan, Attachment V.
- 6. Certification of Closure. The Permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan as required by 40 CFR 264.115.

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- N. Cost Estimate for Facility Closure. The Permittee's original closure cost estimate, prepared in accordance with 40 CFR 264.142(a), is specified in Attachment V.
 - 1. The Permittee must adjust the closure cost estimate for inflation within 30 days after each anniversary of the date on which the first closure cost estimate was prepared, as required by 40 CFR 264.142(b).
 - 2. The Permittee must revise the closure cost estimate whenever there is a change in the facility's closure plan as required by 40 CFR 264.142(c).
 - 3. The Permittee must keep at the facility the latest closure cost estimate as required by 40 CFR 264.142(d).
- O. Financial Assurance for Facility Closure. The Permittee shall demonstrate continuous compliance with 40 CFR 264.143 by providing documentation of financial assurance, as required by 40 CFR 264.151, in at least the amount of the cost estimates required by permit condition II.N. Changes in financial assurance mechanisms must be approved by the Regional Administrator pursuant to 40 CFR 264.143.
- P. Liability Requirements. The Permittee shall demonstrate continuous compliance with the requirements of 40 CFR 264.147 and the documentation requirements of 40 CFR 264.151, including the requirement to have and maintain liability coverage for sudden and accidental occurrences in the amount of at least \$1 million per occurrence with an annual aggregate of at least \$2 million, exclusive of legal defense costs.
- Q. <u>Incapacity of Owners or Operators, Guarantors, or Financial</u>
 <u>Institutions.</u>

The Permittee shall comply with 40 CFR 264.148 whenever necessary.

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III. STORAGE IN CONTAINERS

- A. Waste Identification. The Permittee may store the following wastes in containers at the facility, subject to the terms of this permit:
 - FOO1 -- The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations.
 - FOO2 -- The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, and trichlorofluoromethane; and the still bottoms from the recovery of these solvents.
 - F003 -- The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alchol, cyclohexanone, and methanol; and the still bottoms from the recovery of these solvents.
 - F004 -- The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene, and the still bottoms from the recovery of these solvents.
 - F005 -- The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine; and the still bottoms from the recovery of these solvents.

The Permittee shall not, at any one time, store an amount of waste greater than 6,600 gallons in containers.

- B. Condition of Containers. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the conditions of this permit.
- C. Compatibility of Waste with Containers. The Permittee shall ensure that the ability of the container to contain the waste is not impaired as required by 40 CFR 264.172.
- D. Management of Containers. The Permittee shall manage containers as required by 40 CFR 264.173.

Page 12 of 12

- E. Containment. The Permittee shall operate and maintain the identified containment system in accordance with the requirements of 40 CFR 264.175 and as specified in the attached diagram and procedures, Attachment VII.
- F. Special Requirements for Ignitable or Reactive Waste.
 The Permittee shall not locate containers holding ignitable or reactive waste within 15 meters (50 feet) of the facility's property line.
- G. Special Requirements for Incompatible Waste. The Permittee shall only store wastes which are mutually compatible.

EXHIBIT 1-D

LIST OF AUTHORIZED WASTE CODES

RCRA PART A APPLICATION

EVENDALE FACILITY OHD 002 899 847 HAZARDOUS WASTES LIST

Non-Specific Sources

Waste Codes	<u>Hazardous Constituents and Industrial Processes</u>
F001	Spent halogenated solvents; tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, and chlorinated fluorocarbons; used in vapor degreasing, electronics, and metals preparation industries.
F002	Spent halogenated solvents; tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, orthodichlorobenzene, trichlorofluoromethane; used in electronics, metals preparations, pharmaceutical and plastics industries.
F003	Spent non-halogenated solvents; xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; used in ink and paint formulation, and paint stripping industries.
F005	Spent non-halogenated solvents; toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, and benzene; used in ink and paint formulation, and paint stripping industries.

Characteristic Wastes

D001 Ignitable wastes (non-specific); isopropanol, ethanol, or glycol ethers; used in food, ink and paint formulation, and pharmaceutical industries.

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duction, inject fluids used for enhall oil or natural gas, or inject fluids for			XX	į	tion of fossil fuel, or		of geothermal energy?		Х	
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		owner?
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C. STATUS OF OPERATOR (Enter the appropriate letter into the ans		D. PHONE (cres code & ro.)
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X1. MAP - 13 - 12 - 13 - 13 - 13 - 13 - 13 - 13	10	
Attach to this application a topographic map of the area extending		
the outline of the facility, the location of each of its existing and	proposed intake and discharge s	tructures, each of its hazardous waste.
treatment, storage, or disposal facilities, and each well where it if water bodies in the map area. See instructions for precise requirements		e all springs, rivers and other surface
XII. NATURE OF BUSINESS (provide a brief description)		er a journal ar sente if a facility as the comment
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XIII. CERTIFICATION (see instructions)	post constraint	i i je je je je sa sakazije te j
I certify under penalty of law that I have personally examined an		
attachments and that, based on my inquiry of those persons in application, I believe that the information is true, accurate and of	nmediately responsible for obtail complete. I am aware that there	ning the information contained in the
false information, including the possibility of fine and imprisonme	ATURE	C. DATE SIGNED
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U.S. ENVIRONMENTAL PROTECTION AGENCY HAZARDOUS WASTE PERMIT APPLICATION Consolidated Permits Program

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III. PROCESSES (continu	
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SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "TO4"). FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

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IV. DESCRIPTION OF HAZARDOUS WASTES	

- A. EPA HAZARDOUS WASTE NUMBER Enter the four-digit number from 40 CFR, Suppart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number(s) from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.
- B. ESTIMATED ANNUAL QUANTITY For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non-listed waste/s/ that will be handled which possess that characteristic or contaminant.
- C. UNIT OF MEASURE For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS		KILOGRAMS	
TONS		METRIC TONS	

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous wests: For each listed hazardous weste entered in column A select the code/s/ from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility. For non-listed hezardous westes: For each characteristic or toxic contaminent entered in column A, select the code(s) from the list of process codes

contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous westes that possess that characteristic or toxic contaminant.

Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item (V-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code(s).

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZALIDOUS WASTE NUMBER - Hezerdous westes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

- 1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the weste and describing all the processes to be used to treet, store, and/or dispose of the waste.

 In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter
- "included with above" and make no other entries on that line.
- Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from teather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

<u></u>	A. EPA HAZARD.	E	C. UNIT		D. PROCESSES												. PROCESSES
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NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

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EPA Form 3510-3 (6-80)

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SECTION 3.0 CLOSURE PERFORMANCE STANDARD

The following performance standard for closure of the facility will apply.

The owner or operator will close the facility in a manner that:

- (1) minimizes the need for futher maintenance;
- (2) controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and;
- (3) complies with all applicable closure requirements of 40 CFR 265.110-115.

"Clean" is defined as non-detectable quantities of hazardous constituents using the prescribed test methodology's analytical detection limit (ADL). The laboratory methods used will be those contained in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, Third Edition. A test result below the analytical detection limit (ADL) for the test method used will define non-detectable.

During closure, whether pertaining to partial or final closure activities, the following standards must be met before the hazardous waste storage unit, its apputenances, and equipment may be considered "clean":

- 1. THE RINSEATE FROM CLEANING MUST CONTAIN LESS THAN THE MAXIMUM CONTAMINANT LEVEL (MCL) FOR HAZARDOUS WASTE CONSTITUENTS AS PROMULGATED IN 40 CFR 141.11 AND OAC 3745-81-11 FOR INORGANICS AND 40 CFR 141.12 AND OAC 3745-81-12 FOR ORGANICS; OR
- 2. IF THE MCL FOR A PARTICULAR CONTAMINANT IN THE RINSEATE IS NOT PRESCRIBED BY REGULATION, THEN THE MAXIMUM CONTAMINANT LEVEL GOAL (MCLG) AS PROMULGATED IN 40 CFR 141.50 SHALL BE USED AS THE CLEAN STANDARD; OR
- 3. IF NEITHER AN MCL NOR AN MCLG FOR A PARTICULAR CONTAMINANT IN THE RINSEATE IS PRESCRIBED BY REGULATION, 1 MG/L SHALL BE USED AS THE CLEAN STANDARD.

NOTE: IF A MORE STRINGENT STANDARD IS ADOPTED BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY BEFORE CLOSURE ACTIVITES BEGIN, THE NEW STANDARD WILL APPLY.

SECTION 4.0 CLOSURE PROCEDURES

The general procedures apply to the hazardous waste storage area identified in this Closure Plan.

General closure procedures will include:

- * Discontinue receiving hazardous waste;
- * Separate inventory with regard to incompatible wastes precautions;
- * Decontaminate staging area for equipment and structures;
- * Test for contamination of concrete structures;
- * Test for contamination of soils;
- * Remove and dispose of appurtenances;
- * Decontaminate closure equipment;
- * Dispose of decontamination fluids; and,
- * Certify closure is in accordance with this approved closure plan.

Within the general guidelines for closure, certain specific procedures will be followed. These include:

- * Removal of Stored Waste;
- * Decontamination of Surfaces and Equipment;
- * Concrete Sampling; and
- * Soil Sampling.

SECTION 5.0 REMOVAL OF STORED WASTE

The waste removal process will be conducted in a manner similar to that practiced during day-to-day operations. The following procedures will be used to remove all stored waste materials from the container storage areas.

- * All containers will be loaded onto trucks by a forklift and transported to an off-site third party RCRA authorized treatment/recycling/disposal facility (TSDRF).
- * During the container removal process the emergency procedures outlined in the facility's Contingency Plan will be followed if an incident occurs.
- * The loading and transportation procedures used during closure will be the same as those followed during normal operation. These procedures are as follows:
 - The receiving third party RCRA authorized TSDRF is notified that a load is forthcoming and provided a list of pre-approved waste streams that will be included in the shipment.
 - * A common carrier licensed to haul hazardous waste

(or company truck) will transport the load to the receiving third party RCRA authorized TSDRF.

- * The containers designated for the load are moved via forklift from the container storage area to the loading dock.
- * Each container is inspected for leaks, bulges, damage, loose bungs and legible labeling and marking integrity.
- * The appropriate manifest is completed, and a Land Disposal Restriction Statement (if applicable) is completed.
- * The containers are loaded onto the common carrier (or company truck) via forklift, and the driver signs and dates the transporter section of the manifest.
- * In all cases, transportation will be accomplished in accordance with applicable DOT, EPA, and State regulations.

SECTION 6.0 DECONTAMINATION PROCEDURES

The facility is operated in a manner that minimizes contamination of waste handling equipment, structures, and the surrounding areas. Should any spillage or leakage occur, it is immediately contained with absorbent and properly disposed. In addition, regular inspections and preventative maintenance are routine components of the facility's normal operations. For the reasons stated above, it is not expected that the waste handling equipment and structures will be contaminated. However, the decontamination procedures will be used as a precautionary measure at closure.

The following subsections discuss the specific decontamination procedures for the container storage areas.

6.1 Container Storage Area

Decontamination of the container storage areas will be carried out by appropriately trained personnel under direct supervision of VW&R project Management. The aforementioned personnel will have satisfied the hazardous waste site training requirements specified by the OSHA Hazardous Waste Operations Standard 29 CFR 1910.120. Decontamination personnel will wear safety apparel meeting OSHA standards and will follow proper health and safety protocols at all times.

- * Any contaminated debris or liquids present in the containment area will be removed, packaged in DOT- approved 55-gallon drums, and transported to a licensed off-site third party RCRA authorized TSDRF.
- * Initially, the entire storage pad will be mechanically cleaned by sweeping, vacuuming, and/or scraping.

 Accumulated debris will be gathered and placed in DOT-approved containers to await analyses and subsequent disposal in an approved manner.
- * Upon completion of mechanical cleaning, the containment pans and underlying concrete pad will be visually inspected, for cracks and other openings through which washing fluid may reach underlying soil. All identified cracks or openings will be sealed with a sealant resistant to both water and any cleaner designated for use in the area. Photographs and/or written documentation identifying and describing the location and dimensions of all identified cracks or openings will be incorporated into the operating log of the facility.
- * The pans and the surface of the concrete pad they are on will then be subjected to high temperature / high pressure water washing. To facilitate decontamination

efforts, scrubbing with a stiff brush and/or use of suitable detergents may be incorporated as needed.

- Particular attention will be given to visually suspect areas. The surface will be thoroughly washed, visually inspected for inadequately cleaned areas and further cleaned as needed. This process will be repeated until the pans and pad appear thoroughly cleaned. The rinsate will be collected and placed into DOT-approved containers to await analyses and subsequent disposal in an approved manner. Guidelines under Guide for Decontaminating Buildings, Structures and Equipment at Superfund Sites (EPA/600/2-85/028 March 1985) will be followed during decontamination of concrete areas.
- * Cleaning will be conducted from one end of the unit to the other. At the opposite end from where cleaning begins will be a wet/dry shop vacuum which will be used to collect the water and solution generated during cleaning. The high temperature / high pressure cleaning process is an effective cleaning method, and generates moderate amounts of water. The amount of water generated during steam cleaning is easily managed within the confines of the portable dike.
- * The rinsate and cleaning residue from different stages

of the decontamination will not be co-mingled.

- * Upon completion of the wash cycle, the storage pad will be rinsed with a clean high temperature / high pressure water rinse. Between each rinsing, the pad will be visually inspected to assure that complete rinsing has occurred.
- A final rinsate will be collected by vacuum and placed into a DOT-approved container. The final rinse water and all wash water will be sampled and analyzed to determine the appropriate waste type designation. All of the rinsate and cleaning solutions will be then be properly disposed based on the findings from their analyses.

6.2 Equipment Decontamination

All equipment used for closure activities will be decontaminated by removing all loose material, washing with an appropriate cleaning solution, and then rinsing with a high pressure washer or other equipment. Equipment will be decontaminated prior to transport off-site or use elsewhere on-site.

All equipment decontamination operations will be conducted in a designated area with adequate containment that is bermed and

covered with an impermeable plastic sheeting. All rinsate generated during decontamination will be collected and placed in DOT-approved containers for later analysis and disposal in an approved manner.

A list of possible equipment potentially requiring decontamination includes:

Trucks
Fork Lifts
Safety Equipment
Coring Equipment
Boring/Drilling Equipment

Hand Augers
Sampling Equipment
Hoses, Pumps, etc.
Brushes, Buckets, etc.

SECTION 7.0 CONCRETE SAMPLING

The concrete surfaces will be sampled and analyzed for any residual contamination upon completion of the wash/rinse cycle of the concrete surfaces.

- * After cleaning the surface of the storage unit, two,
 two-inch diameter cores will be taken through the pad.
 Priority for the selection of concrete sample locations
 will be given to areas where there is evidence of
 spills and/or visual signs of contamination or
 deterioration. In the event the floor of the storage
 unit is devoid of evidence of spills, deterioration or
 contamination, priority for sample collection locations
 will be given to heavy use areas. The cored holes will
 be plugged with a high strength shrink and chemical
 resistant grout.
- * Samples of sufficient quantity will be collected to assure that all appropriate analyses can be made. All samples and analyses will be performed in accordance with the procedures specified in EPA Publication SW-846: Test Methods For Evaluating Solid Wastes,

 Physical and Chemical Methods. The surface undergoing closure will be sampled and analyzed for the hazardous waste known to have been held at the specific location.

At a minimum, analyses for volatile organic compounds, semivolatile organic compounds, and total metals will be performed.

The floor of the hazardous waste storage area will be deemed hazardous if the levels of the hazardous constituents are significantly greater than the levels mandated by the closure performance standard in Section 3.0 of this closure plan.

In the event that the core samples are determined to be hazardous, on the basis of the analytical results, the contamination potential of the entire floor of the storage unit will be assessed as follows:

* Additional core samples will be collected at locations on the floor of the storage unit in close proximity to the initial samples which indicated contamination. The cores will be divided horizontally into two equal segments. The top half of the core will be analyzed for the same constituents as the corresponding initial core samples. If the analytical results exceed applicable, appropriate and relevant federal and state standards in effect at the time of closure, then the lower half of the core will be analyzed in the same manner. It is not anticipated that elevated levels of

hazardous constituents will be observed in the lower half of the storage unit floor.

Final disposition of the storage unit floor will be determined on the basis of the analytical results. If the structure is determined to be hazardous, it will be removed down to a depth where applicable, appropriate and relevant federal and state standards are met. The contaminated material will be handled as a hazardous waste and will be properly disposed in an off-site RCRA authorized TSDRF.

SECTION 8.0 SOIL SAMPLING

The soils beneath the storage unit will be sampled and analyzed only if decontamination rinsewaters and core analyses of the storage unit floor indicate that chemical residues have penetrated the secondary containment structures of the storage unit. All soils work will be conducted by personnel who have satisfied the hazardous waste site training requirements specified by the OSHA Hazardous Waste Operations Standard 29 CFR 1910.120. Sampling personnel will wear safety apparel meeting OSHA standards and will follow proper health and safety protocols at all times. The following specific procedures will be used during soil sampling activities:

- * Four soil sample locations, at a minimum, will be selected dependent on the condition and appearance of the storage unit floor. Priority for the selection of soil locations will be given to locations where the floor of the storage unit shows evidence of spills and/or visual signs of contamination or deterioration. If there is no evidence of physical contamination or deterioration, priority for soil sample collection locations will be given to heavy use areas.
- * Soil samples will be collected using a continuous flight, hollow-stem auger with a split-spoon sampler.

The auger will be advanced to sample depths of 6 inches and 3 feet below the bottom of the floor of the storage unit. The split-spoon sampler will be driven eighteen inches to enable the collection of undisturbed soil samples at each of these depths. No fluids will be added to the borehole during drilling.

- * Samples will be collected in properly decontaminated brass liners. The brass liners will be sealed using teflon sheets, plastic slip caps, and teflon tape. The samples will be stored in a cooler containing ice until delivery to the analytical laboratory.
- * After completion of the soil drilling and sampling, the auger holes will be backfilled with a bentonite grout.
- * The analytical methods which will be used for soil analyses will be based on the types of hazardous waste known to have been stored. All sampling and analyses will be performed in accordance with the procedures specified in SW-846. At a minimum, samples will be submitted for the analyses of volatile organic compounds, semi-volatile organic compounds, and total metals.
- * Results of the soil sample analyses will be evaluated

and compared to appropriate, applicable and relevant federal and state standards in effect at the time of closure. If contamination is identified based on this comparison, a separate soil sampling plan for additional soil investigation will be submitted for review and approval.

SECTION 9.0 PARTIAL CLOSURE

There are no current plans to partially close the facility. This closure plan covers the final closure of all waste container storage areas.

SECTION 10.0 EXPECTED CLOSURE DATE

The facility ceased hazardous waste storage operations on June 30, 1992. Closure activities will begin as soon as approval of this closure palm is received from the appropriate State and Federal regulatory agencies. A Closure Report and Closure Certification will be submitted to the appropriate regulatory agencies within 60 days of the completion of closure activities.

SECTION 11.0 CLOSURE CERTIFICATION

Certification by an independent registered professional engineer, and signed by the owner/operator of the facility, will be included in the closure process. The purpose of this certification is to document that the facility is closed in accordance with the procedures specified in this closure plan. This certification will be submitted to the Ohio Environmental Protection Agency and the U.S. Environmental Protection Agency - Region V within sixty days of completion of closure.

Closure certification will consist of reports from both the independent registered professional engineer and Van Waters & Rogers Inc. The report from Van Waters & Rogers Inc. will include a narrative of the closure activities, pictures of the closure activities, and laboratory results of rinsate and soil sampling. The report from the independent engineer will be included as part of the Van Waters & Rogers Inc. report. A certification statement signed by both the independent engineer and a Corporate Officer of Van Waters & Rogers Inc. will be submitted with the report. The certification statement will attest, using the wording found in the regulations, that the hazardous waste container storage unit was closed in accordance with the approved closure plan.

SECTION 12.0 CLOSURE SCHEDULE

As required, Van Waters & Rogers Inc. is notifying the appropriate regulatory agencies at least 45 days prior to the date on which closure is expected to begin. The activities discussed in the closure plan will be completed within 180 days subsequent to receipt of approval from the regulatory agencies of the closure plan.

The anticipated closure schedule for the facility is provided in Exhibit 12-A.

In the event contaminants are detected in the soils beneath the container storage unit, the results of the soil sampling and analyses will be shared with the regulatory agencies, and Van Waters & Rogers Inc. will negotiate a revised closure schedule. During and after closure activities this facility will be an active distribution center. If corrective actions are required due to the discovery of contaminants in the soils beneath the interim status storage unit, Van Waters & Rogers Inc. will comply with Federal and State environmental laws and regulations governing remedial activities.

EXHIBIT 12-A
CLOSURE SCHEDULE

CLOSURE SCHEDULE

Facility Name:

Van Waters & Rogers Inc. Evendale (Cincinnati), Ohio OHD 002 899 847

NUMBER OF DAYS FROM THE START OF CLOSURE

															···	n		
ACTIVITY	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
Receipt of Final Volume of Hazardous Waste	****																	
Removal of final waste inventory and pallets	***	***				i i					; ;				·			
High Pressure / High Temperature Decontamianation of Storage Unit			***								,		2					
Sampling and Analysis of Rinseate / Concrete / Soil			*****	****	****	****	*****	****	******	****	***	****	****		*****	*****		
Removal/Disposal of Waste Rinseates																	女女女女女女女女	
Certification by Registered Professional Engineer		 									j						*****	
Submittal of Certification to Regulatory Authorities					1								İ	<u> </u> 				***
to Regulatory Authorities					j					'				,				
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SECTION 13.0 AMENDMENT TO CLOSURE PLAN

This closure plan will be amended whenever changes are required by the regulatory authorities or new information indicates revisions are in order.

The plan must be reviewed and approved by the regulatory authorities before closure activities can begin. This plan will be amended accordingly upon review and comment by Federal and State regulatory agencies. Closure activities will not begin until the closure plan has been approved.

SECTION 14.0 POST CLOSURE ISSUES

The facility does not conduct on site treatment, recycling or disposal of hazardous wastes. Post closure plans are not applicable to hazardous waste storage facilities. Additionally, procedures developed by Van Waters & Rogers Inc. for managing waste materials are designed to assure a storage unit's compliance with applicable laws and regulations, and to prevent threats to human health and the environment. The goal is to assure that a hazardous waste management unit upon closure is "clean" and will not require any post-closure maintenance.

SECTION 15.0 NOTICE in DEED

Because this location has functioned only as a temporary storage facility, notation is not needed on the deed to inform potential purchasers of the use of this property for that purpose.

SECTION 16.0 CLOSURE COST ESTIMATE

The current closure costs estimate is shown in Exhibit 16-A. The closure costs estimate has been maintained in accordance with applicable regulatory requirements throughout the operating life of this waste container storage facility. The costs are computed using the most current figures for operating costs and inflation. The closure costs are computed based upon clean-up and disposal of the maximum waste inventory by a third party contractor. The costs include decontamination costs, sampling and analysis costs and transportation costs by third party contractors.

Estimates of the costs involved in decontaminating a container storage unit were obtained from national environmental consulting firms with whom VW&R has done business in the past. Estimates of the costs for transportation and disposal of containers are based on current pricing schedules by national treatment, recycling and disposal firms available to VW&R through our ChemCare partner agreements.

EXHIBIT 16-A
CLOSURE COSTS ESTIMATE

Van Waters & Rogers Inc. Surety's Bond #: UVR 1990-21 Adjusted as of: 31 October 1991

> Closure Cost Estimate Cincinnati Branch (Evendale, Ohio) OHD 002 899 847

Branch RCRA Status: Part B Permit; Renewal Application submitted

ITEM	COST
Waste Inventory Removal / Disposal Maximum Inventory = 6600 drums Disposal Costs = \$1.09 per gallon Transportation (\$2.00 per mile) Labor (\$15.00 per hour)	\$7,200.00 \$100.00 \$120.00
Subtotal	\$7,420.00
Decontamination	
Secondary Containment Area Rinsate Sampling & Analysis Rinsate Disposal Equipment Decontamination / Disposal	\$100.00 \$1,450.00 \$200.00 \$200.00
Subtotal	\$1,950.00
Administration & Contingencies	
Administration (5.0%) Contingencies (10.0%) Closure Certification Inflation Adjustment (previous)	\$468.50 \$937.00 \$900.00 \$1,440.68
Subtotal	\$3,746.18
Total	\$13,116.18
Inflation Factor (current) = 0.0412 (%)	\$540.39
Closure Cost Estimate	\$13,656.57

SECTION 17.0 FINANCIAL ASSURANCE FOR CLOSURE

Financial assurance for closure is covered by a trust agreement and a surety bond guaranteeing payment into a trust fund (a financial guarantee bond). A bond rider covering the most recent closure cost estimate is updated annually to reflect current operating costs and adjustments for inflation. The trust agreement, surety bond and bond rider are attached as Exhibit 17-A.

Closure costs are updated annually within 60 days of the anniversary of the date on which the financial instruments were established. The costs are updated using the inflation factor derived from the annual Implicit Price Deflator for Gross National Product as found in the Survey of Current Business issued by the U.S. Department of Commerce. Each year, the closure cost from the previous year will be adjusted for inflation.

Financial assurance for closure will be maintained until Van Waters & Rogers Inc. is released from this obligation by the regulatory agencies.

EXHIBIT 17-A FINANCIAL ASSURANCE DOCUMENTATION

AlU Insurance Company
American Home Assurance Company
Granite State Insurance Company
The Insurance Company of the State of Pennsylvania
Metional Union Fire Insurance Company of Pittsburgh, Pa.

All Hampshire Insurance Company



American International Companies

Principal Bond Office
70 Pine Street, New York, N.Y. 10270

FINANCIAL GUARANTEE BOND

Date Bond Executed:

August 3, 1990

Effective Date:

October 31, 1990

Principal:

Van Waters & Rogers Inc.

1600 Norton Building

Seattle, Washington 98104

Type of Organization:

Corporation

State of Incorporation:

Washington

Surety:

National Union Fire Insurance Company of Pittsburgh, Pa.

70 Pine Street

New York, New York 10270

EPA Identification Number, name, address, and closure/post-closure amount(s) for each facility guaranteed by this bond:

EPA Identification Number:

OHD002899847

Name:

Van Waters & Rogers Inc.

Address:

3025 Exon Avenue Evendale, Ohio 45241

Total Penal Sum of the Bond:

\$13,116.18

Surety's Bond Number:

UVR 1990-21

KNOW ALL PERSONS BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto are firmly bound to the Ohio Environmental Protection Agency ("Ohio EPA") in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that where the Surety(ies) are corporations acting as co-sureties, we, the Surety(ies), bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

WHEREAS said Principal is required to have an Ohio EPA permit or permits, in order to own or operate each hazardous waste management facility identified above, and

WHEREAS said Principal is required to provide financial assurance for closure, or closure and post-closure care, of the facility(ies) as a condition of the permit(s), and

WHEREAS said Principal shall establish a standby trust fund as specified by rule 3745-55-43 or 3745-66-43 of the Ohio Administrative Code.

NOW, THEREFORE, THE CONDITIONS OF THE OBLIGATION ARE SUCH That if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

OR, if the Principal shall fund the standby trust fund in such amount(s) within fifteen (15) days after an order to begin closure is iss ed by the Director or an Ohio court, or a U.S. district court or other court of competent jurisdiction, or within fifteen days after ce of revocation of the permit(s) by the Director to suspend facility operations.

OR, if the Principal shall provide alternate financial assurance, as specified in rule 3745-55-43 or 3745-66-43 of the Ohio Administrative Code as applicable, and obtain the Director's written approval of such assurance, within ninety (90) days after the date notice of cancellation is received by both the Principal and the Director from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

THE SURETY(IES) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Director that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Director.

THE LIABILITY of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless or until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

THE SURETY(IES) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Director, provided, however, that cancellation shall not occur during the one hundred twenty (120) days beginning on the date of receipt of the notice of cancellation by both the Principal and the Director, as evidenced by the return receipt(s) or while a compliance procedure is pending, a defined in rule 3745-55-41 or 3745-66-41 of the Ohio Administrative Code.

THE PRINCIPAL may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Director.

IN WITNESS WHEREOF, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

THE PERSONS whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in paragraph (B) of rule 3745-55-51 of the Administrative Code as such regulations were constituted on the date this bond was executed.

PRINCIPAL

Signature(s): Name(s):

Title(s):

Corporate Seal:

Corporate Secretary

CORPORATE SURETY(IES)

Name and Address:

National Union Fire Insurance Company of Pittsburgh, Pa.

70 Pine Street

New York, New York 10270

State of Incorporation:

Liability Limit:

Signature(s): Name(s) and Title(s): Pennsylvania \$13,116.18

P. D. Dineen, Attorney-in-Fact

Premium:

Corporate Seal:

\$131.00

And hisurance Company American Home Assurance Company Granite State Insurance Company The Insurance Company of the State of Pennsylvania National Union Fire Insurance Company of Pittsburgh, Pa. ew Hampshire Insurance Company



American International Companies

Principal Bond Office 70 Pine Street, New York, N.Y. 10270

SURETY RIDER

To be attached to and for	rm a part of Bond No. U	/R 1990-21 dated (October 31, 1990	executed by Van	Waters & Rogers I	NC. as
Principal, and National U	Inion Fire Insurance Con	npany of Pittsburg	gh, Pa. as Surety,	in favor of Ohio l	Environmental Prot	ection
Agency as Obligee.	÷ .					

Princip	al, and National Union Fire Insurance Company of I y as Obligee.		October 31, 1990 executed by Van Waters & Rogers Inc. a h, Pa. as Surety, in favor of Ohio Environmental Protection	
	sideration of the premium charged, it is understood an changed:	ıd agreed	that, effective on October 31, 1991 that the following item	S
	From:		To:	
1.	Principal's Address:			
	1600 Norton Building 801 Second Avenue Seattle, Washington 98104		6100 Carillon Point Kirkland, Washington 98003	
			Post Office Box 34325 Seattle, Washington 98124-1325	
2.	Total Penal Sum of the Bond:			
	\$13,116.18		\$13,656.57	
3.	Surety's Bond Number:			
	UVR 1990-21		97021	
	ed, however, that the liability of the Surety under the a cumulative.	ittached b	ond and under the attached bond as changed by this rider sha	11
	ng herein contained shall be held to vary, waive, alter of mentioned bond, other than as stated above.	or extend	any of the terms, conditions, agreements or warranties of the	e
Signed	, sealed and dated September 4, 1991.			
			Van Waters & Rogers Inc. (Sea	l)
Accept	ted:		By William A. Butler, Vice President & (Title	e)
Ohio I	Environmental Protection Agency		Corporate Secretary National Union Fire Insurance Company of Pittsburgh, P	a.
Ву		Title)	By P. D. Dineen, Attorney-in-Fact	

American Home Assurance Company National Union Fire Insurance Company of Pittsburgh, Pa.

Principal Bond Office: 70 Pine Street, New York, N.Y. 10270

POWER OF ATTORN

Νo.	03-B-09115

KNOW ALL MEN BY THESE PRESENTS:

That American Home Assurance Company, a New York corporation, and National Union Fire Insurance Company of Pittsburgh, Pa., a Pennsylvania corporation, does each hereby appoint

---Kenneth D. Houtz, Thomas J. Jochums, Lori Whitted, Evelyn McCain, Cynthia L. Foy, P.D. Dineen: of Seattle, Washington---

its true and lawful Attorney(s)-in-Fact, with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, American Home Assurance Company and National Union Fire Insurance Company of Pittsburgh, Pa. have each executed these presents





this 7 day of August 1990.

Mark E. Reagan, Senior Vice President

STATE OF NEW YORK SS.

On this 7 day of August 19 90 before me came the above named officer of American Home Assurance Company and National Union Fire Insurance Company of Pittsburgh, Pa., to me personally known to be the individual and officer described herein, and acknowledged that he executed the foregoing instrument and affixed the seals of said corporations thereto by authority of his office.

JOSEPH B. NOZZOLIO
Notary Public, State of New York
No. 01-NO4652754
Qualified in Westchester County
Jerm Expires Jan. 21, 129

CERTIFICATE

Excerpts of Resolutions adopted by the Boards of Directors of American Home Assurance Company and National Union Fire Insurance Company of Pittsburgh, Pa. on May 18, 1976:

"RESOLVED, that the Chairman of the Board, the President, or any Vice President be, and hereby is, authorized to appoint Attorneys-in-Fact to represent and act for and on behalf of the Company to execute bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, and to attach thereto the corporate seal of the Company, in the transaction of its surety business;

"RESOLVED, that the signatures and attestations of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company when so affixed with respect to any bond, undertaking, recognizance or other contract of indemnity or writing obligatory in the nature thereof:

"RESOLVED, that any such Attorney-in-Fact delivering a secretarial certification that the foregoing resolutions still be in effect may insert in such certification the date thereof, said date to be not later than the date of delivery thereof by such Attorney-in-Fact."

I, Maureen P. Tully, Secretary of American Home Assurance Company and of National Union Fire Insurance Company of Pittsburgh, Pa. do hereby certify that the foregoing excerpts of Resolutions adopted by the Boards of Directors of these corporations, and the Powers of Attorney issued pursuant thereto, are true and correct, and that both the Resolutions and the Powers of Attorney are in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of each corporation





this 4th day of September . 199

Maureen P. Tully, Secretary

TRUST AGREEMENT

Trust Agreement. The "Agreement," entered into as of May 24, 1991, by and between Van Waters & Rogers Inc., a Washington corporation, the "Grantor," and Seattle First National Bank, a national bank, the "Trustee."

WHEREAS, the Ohio Environmental Protection Agency, "Ohio EPA," has established certain rules applicable to the Grantor, requiring that the owner or operator of a hazardous waste management facility must provide assurance that funds will be available when needed for closure and/or post-closure care of the facility,

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

NOW, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

- (a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.
- (c) The term "Director" means the Director of the Ohio EPA, or his designee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A.

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund" for the benefit of the Ohio EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund will be held by the Trustee, in trust, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Ohio EPA.

Section 4. Payment for Closure and Post-Closure Care. The Trustee will make such payments from the Fund as the Director will direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee will reimburse the Grantor or other persons as specified by the Director from the Fund for closure and post-closure expenditures in such amounts as the Director will direct, in writing. In addition, the Trustee will refund to the Grantor such amounts as the Director specifies in writing. Upon refund, such funds will no longer constitute pat of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund will consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee will invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines

which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling and managing the Fund, the Trustee will discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 USC §80a-2(a), will not be acquired or held, unless they are securities or other obligations of the federal or state government;
- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or state government; and
- (c) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all the

provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. §80a-1 et seq., including one which may be created, managed, underwritten or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee will be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;
- (b) To make, execute, acknowledge and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;
- (c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other

securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee will at all times show that all such securities are part of the Fund;

- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or state government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund will be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee will be paid from the Fund.

Section 10. Annual Valuation. The Trustee will annually, at least thirty days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Director a statement confirming the value of the Trust. Any securities in the Fund will be valued at market value as of no more than sixty days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within ninety days after the statement has been furnished to the Grantor and the Director

will constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee will be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee will be entitled to reasonable compensation for its service as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee and this successor accepts the appointment. The successor Trustee will have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor Trustee's acceptance of the appointment, the Trustee will assign, transfer and pay over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor Trustee or for instructions. The successor Trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Director, and the present Trustee by certified mail ten days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section will be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests and instructions by the Grantor to the Trustee will be in writing, signed by such persons as are designated in the

attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee will be fully protected in acting without inquiry in accordance with the Grantor's orders, requests and instructions. All orders, requests, and instructions by the Director to the Trustee will be in writing, signed by the Director, and the Trustee will act and will be fully protected in acting in accordance with such orders, requests and instructions. The Trustee will have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Director hereunder has occurred. The Trustee will have no duty to act in the absence of such orders, requests and instructions from the Grantor and/or the Director except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee will notify the Grantor and the Director, by certified mail within ten days following the expiration of the thirty-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee is not required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Director, or by the Trustee and the Director if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust will be irrevocable and will continue until terminated at the written agreement of the Grantor, the Trustee, and the Director or by the Trustee and the Director if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, will be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee will not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Director issued in accordance with this Agreement. The Trustee will be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement will be administered, construed and enforced according to the laws of the state of Ohio.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement will not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in paragraph (A)(1) of rule 3745-55-51 of the Ohio Administrative Code as such regulations were constituted on the date first above written.

(Seal)

Title

Title

(Seal) Title TRUST OFF STATE OF WASHINGTON) COUNTY OF KING On this May 21, 1991, before me personally came James L. Fletcher me known, who, being by me duly sworn, did depose and say that she/he resides at <u>Seattle</u> , that she/he is Senior Vice President of Van Waters & Rogers Inc. , the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order. votary Rublić My commission expires 10-30-92. STATE OF WASHINGTON) COUNTY OF KING On this MAU 24,1991, before me personally came TIMOTHYD. WHITTY to me known, who, being by me duly sworn, did depose and say that she/he resides at SEATTLE, WASHINGTON, that she/he is VICE PRESIDENT OF SEAFIRST BANK , the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

SCHEDULE A

This Agreement demonstrates financial assurance for the following cost estimates for the following facilities:

U.S. EPA ID# of Facility	Name and Address of Facility	Cost Estimates For Which Financial Assurance Being Demonstrated by This Agreement
OHD 071107791	Cleveland/Bedford Heights 1686 East Highland Road Twinsburg, OH 44087	\$12,958
OHD 002899847	Cincinnati/Evendale 3025 Exon Avenue Cincinnati, OH 45241	\$11,882
	Total	\$24,840

The cost estimates listed here were last adjusted on February 4, 1987.

SCHEDULE B

The Grantor, Van Waters & Rogers Inc., has established the attached trust as a standby trust in conjunction with a closure and/or post-closure surety bond guaranteeing payment into a closure trust fund established in favor of the Grantor in accordance with 40 CFR 264.143 and 40 CFR 265.143 (closure) and 40 CFR 264.144 and 40 CFR 265.144 (post-closure), adopted in Ohio in paragraph (A)(1) of rule 3745-55-51 of the Ohio Administrative Code. This trust shall become active only when the Ohio Environmental Protection Agency draws upon the surety bond following a determination pursuant to the Ohio Hazardous Waste Management Regulations that the Grantor has failed to perform final closure and/or post-closure in accordance with the closure and/or post-closure plan and other permit requirements when required to do so, and the provisions in the trust agreement pertaining to an active trust shall be come applicable at that time.

EXHIBIT A

<u>Name</u> <u>Title</u>

James W. Bernard President and Chief Executive Officer

William A. Butler Vice President, General Counsel &

Corporate Secretary

Bevan A. Cates Senior Vice President -

Marketing/Sales/Material Management

Dick A. Davis Senior Vice President - Operations

Gerald R. Fischer Vice President -- Marketing

James L. Fletcher Senior Vice President - Environmental

and Corporate Affairs

David E. Olson Assistant Treasurer

Gary E. Pruitt Vice President and Treasurer

Van Waters & Rogers Inc. 801 Second Avenue, Suite 1600 Seattle, WA 98104

Any one of the above persons may provide and sign the instructions to the Trustee, as provided in Section 14.

SECTION 18.0 HAZARDOUS WASTE - CERTIFICATE OF LIABILITY INSURANCE

Exhibit 18-A is a copy of our certificate of liability insurance.

General liability insurance for sudden and accidental occurrences

will be covered as required by regulation.

EXHIBIT 18-A
HAZARDOUS WASTE CERTIFICATE OF LIABILITY INSURANCE

Hazardous Waste Facility Certificate Of Liability Insurance

- 1. National Union Fire Insurance Company of Pittsburgh, PA (the "Insurer"), of 70 Pine Street, New York, New York; 10270, hereby certifies that it has issued liability insurance covering bodily injury and property damage to Van Waters and Rogers Inc. (the "insured"), of 6100 Carillon Point, Kirkland, Washington, 98033, in connection with the insured's obligation to demonstrate financial responsibility under Rules 3745-55-47 and 3745-66-47 of the Administrative Code. The coverage applies to the facility(ies) listed on Schedule A attached hereto for sudden accident occurrences. The limits of liability are \$5,000,000 each occurrence with an annual aggregate of at least \$5,000,000, exclusive of legal defense costs. The coverage is provided under Policy Number PRM7063084, issued on March 1, 1989. The effective date of said policy is March 1, 1989 until canceled.
- 2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:
- (a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.
- (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated, as specified in Paragraph (F) of Rule 3745-55-47 or Paragraph (F) of Rule 3745-66-47 of the Administrative Code.
- (c) Whenever requested by the Director of the Ohio Environmental Protection Agency, the Insurer agrees to furnish to the Director a signed duplicate original of the policy and all endorsements.

- (d) Cancellation of the insurance, whether by the Insurer or the insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Director.
- (e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Director.

I hereby certify that the wording of this instrument is identical to the wording specified in Paragraph (J) of 3745-55-51 of the Administrative Code, as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more states.

Signature of	Authorized Representative of Insurer	
Type Name _.	Joseph E. Sander	
Title	Assistant Secretary	

Authorized Representative of National Union
Fire Insurance Company of Pittsburgh, PA
70 Pine Street, Third Floor
New York, New York 10270

Schedule A

List of Facilities - Ohio

Cincinnati Area Office 1. Name: 2. Address: 3025 Exon Avenue Evendale, Ohio 45241 Telephone: 3. (513) 563-2440 Facility Manager/Contact: 4. Ivan Byers 5. **EPA Identification Number:** #OHD002899847 б. Current Closure Cost: \$13,656.57 Cleveland/Bedford Heights 1. Name: 2. Address: 26601 Richmond Drive Bedford Heights, Ohio 44146 3. Telephone Number: (216) 425-4330 Facility Manager/Contact: 4. Cliff Moll 5. EPA Identification Number: #OHD071107791 6. Current Closure Cost Estimate: \$14,893.29

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Van Waters & Rogers Inc. Revised: July 6, 1990

CHAPTER J

CORRECTIVE ACTIONS for SOLID WASTE MANAGEMENT UNITS

(40 CFR Part 264.101) (OAC 3745-55-01)

THE FACILITY FUNCTIONS PRIMARILY AS A DISTRIBUTION CENTER
FOR CHEMICAL PRODUCTS. THERE ARE NO MANUFACTURING PROCESSES AT
THIS FACILITY. THE ONLY PROCESS AT THE FACILITY WHICH GENERATES
ANY HAZARDOUS WASTES IS REPACKAGING. THE REPACKAGING PROCESS
CONSISTS OF TAKING CHEMICAL PRODUCTS IN BULK CONTAINERS (SUCH AS
ABOVEGROUND STORAGE TANKS AND TANK TRUCKS) AND PUTTING THEM INTO
SMALLER CONTAINERS (SUCH AS 350-GALLON PORTABLE TANKS AND 55GALLON DRUMS). RESIDUAL AMOUNTS OF CHEMICALS IN THE TRANSFER
HOSES AND PUMPS ARE FLUSHED FROM THE LINES USING ISOPROPYL
ALCOHOL. THE FLUSH IS COLLECTED IN A 55-GALLON DRUM AND MANAGED
AS HAZARDOUS WASTE.

AS A CHEMICAL DISTIBUTION CENTER AND REPACKAGER, THE FACILITY HAS TWO TANK FARMS (ONE FOR MINERAL ACIDS AND ONE FOR SOLVENTS), A FILLING ROOM WHERE PRODUCT IS PACKAGED, A NEUTRALIZATION UNIT WHERE RESIDUES OF MINERAL ACIDS ARE NEUTRALIZED, PRODUCT STORAGE AREAS, TEMPORARY CONTAINER STAGING AREAS, AND PRODUCT OFF-LOADING AREAS. THESE AREAS DO NOT HAVE A SIGNIFICANT POTENTIAL FOR ROUTINE AND/OR SYSTEMATIC RELEASES OF

CORRECTIVE ACTIONS [rev. 7/6/90]

HAZARDOUS WASTES OR HAZARDOUS CONSTITUENTS. BASED ON FACILITY
RECORDS AND INTERVIEWS WITH EMPLOYEES WHO HAVE BEEN AT THE
FACILITY FOR A LONG-TIME, THESE AREAS HAVE NEVER EXPERIENCED
ROUTINE OR SYSTEMATIC RELEASES OF ANY KIND.

This facility does not operate any other solid waste management units except for its hazardous waste storage unit described in this RCRA Part B application. We also are not aware of any solid waste management units operated at this facility in the past. At this time there are no corrective actions required, on-going, or planned. Should our continuing program of inspections and monitoring indicate a release of hazardous waste OR HAZARDOUS CONSTITUENTS IN ANY QUANTITY, that constitutes a threat to human health and the environment, corrective actions would commence immediately upon its discovery.

A certification of the fact that Van Waters & Rogers Inc. has not and does not operate any solid waste management units AT THIS FACILITY is shown as Exhibit J-1.

CERTIFICATION REGARDING POTENTIAL RELEASES FROM SOLID WASTE MANAGEMENT UNITS (CLOSURE PLAN REVIEW)

FACILITY NAME:	Van Waters & Rogers Inc.	Evendale Branch
EPA I.D. NUMBER:	OHD 002 899 847	
LOCATION CITY:	Evendale (Cincinnati)	
STATE:	Ohio	
closed) at your	f the following solid waste facility? NOTE - DO NOT INC IN YOUR PART A APPLICATION	management units (existing or CLUDE HAZARDOUS WASTES UNITS and in your closure plan.
Storage Tank Container St Injection We Wastewater T Transfer Sta Waste Recycl Waste Treatm Other If there are "Y provide a descr of in each unit would be consid RCRA. Also inc	(Above Ground) (Underground) orage Area lls reatment Units tions ing Operations ent, Detoxification es" answers to any of the it iption of the wastes that we In particular, please for ered as hazardous wastes or lude any available data on of the dates of disposal. Ple d include capacity, dimension	tems in Number 1 above, please ere stored, treated or disposed cus on whether or not the wastes hazardous constituents under quantities or volume of wastes ease also provide a description ons, location at facility, provide
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NOTE: Hazardous waste are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII Of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part A application and in your closure plan. please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the part or still be occurring. Please provide the following information a. Date of release b. Type of waste released . c. Quantity or volume of waste released d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.) 4. In regard to the prior releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases, Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. 1 am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d)) James F. Lacey, Regional Vice President Typed Name and litle

Signature